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# THIRTY-FIFTH ANNUAL REPORT

OF THE

# DEPARTMENT OF MARINE AND FISHERIES

1902



# FISHERIES

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT STATIONERY

1903

[No. 22—1903]—Price: 20 cent

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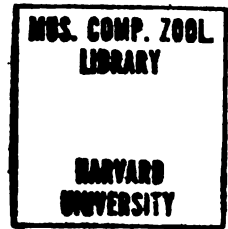
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# REPORT

OF THE

## DEPUTY MINISTER.

To the Honourable

RAYMOND PRÉFONTAINE,

Minister of Marine and Fisheries.

SIR,—I have the honour to submit the thirty-fifth annual Fisheries Report of this department for the fiscal year ending on June 30 last. The usual statements of expenditure and revenue as well as the reports from the various district Inspectors of Fisheries are given, and there are also included reports on fish culture in the Dominion, oyster culture, bait cold storage, fishery protection service, fisheries intelligence bureau, &c. A *résumé* of the fishery bounty claims, and more or less detailed summaries of the work done at the Marine Biological station, located for the season on the coast of Nova Scotia, and the Lake Biological station, Georgian Bay, Ontario. Appended to this report are three special reports by Professor E. E. Prince, Commissioner of Fisheries for the Dominion, the subjects treated being 'Bait Cold Storage in Canada,' 'The Fishway Problem' and 'The Culture of Shad.'

The appendices referred to above, follow in order :—

1. Expenditure and Revenue.
2. Fishing Bounties.
3. Nova Scotia Fisheries.
4. British Columbia Fisheries.
5. North-west Territories Fisheries.
6. Manitoba Fisheries.
7. Ontario            "
8. Quebec            "
9. New Brunswick Fisheries.
10. Prince Edward Island Fisheries.
11. Fish Culture Operations, 1902.
12. Fisheries Protection Service and Intelligence Bureau, 1902.
13. Bait Cold Storage, 1902.

### BRITISH COLUMBIA SALMON COMMISSION, 1902.

An important commission was appointed by Order in Council, dated January 24, 1902, to investigate the proper protection and future development of the various branches of the salmon fishing industry in British Columbia. The commissioners appointed were Professor Edward E. Prince, Ottawa, chairman of the commission; Mr.



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Aulay Morrison, M.P., New Westminster; Mr. Ralph Smith, M.P., Nanaimo, and Mr. G. R. Maxwell, M.P., Vancouver. By the death of Mr. Maxwell, a vacancy has been created on the commission, which has been filled by the appointment of Mr. George Riley, M.P., Victoria. The commission opened in Vancouver, on Friday, January 24, 1902, and from that date until February 5, the commissioners were continuously occupied with the duties imposed upon them. Sixteen sittings were held, at which evidence was heard from fishermen, cannerymen, merchants and fish dealers, official representatives of various public bodies, and other parties interested in the great salmon industry of our Pacific waters. Over seventy witnesses appeared, including twenty-nine at the Vancouver sittings, sixteen at New Westminster, fourteen at Victoria and eleven at Nanaimo, and memorials, petitions and written or printed statements were handed in to the commissioners to be incorporated in the evidence taken. The sittings of the commission were as follows:—

Vancouver	O'Brien's Hall	Jan. 24	1 sitting.
"	"	25	2 "
"	"	27	2 "
"	"	28	3 "
New Westminster	City Hall	" 29	2 "
"	"	" 30	1 "
Victoria	Board of Trade Rooms	Feb. 3	2 "
"	"	" 4	2 "
Nanaimo	Free Press Hall	" 5	1 "

In addition to the formal sittings of the commission, other opportunities were requested for presenting the views of influential parties in Victoria and Vancouver before the commissioners. The commissioners readily acceded to the wishes of the Vancouver Board of Trade to attend a meeting specially arranged for January 31, when a friendly conference took place, and important British Columbia fishery questions were discussed at length. The deep-sea fisheries as well as the inshore and river salmon fisheries formed the subjects of discussion, and Professor Prince, with the other commissioners who attended, interchanged views with the members of the Board, so that the conference was mutually very satisfactory. On February 4, His Worship the Mayor of Victoria, accompanied by a large number of important citizens, held a lengthy meeting with certain members of the commission, when the question of the better protection of the salmon rivers of the province, the more efficient supervision of the trout fisheries and the encouragement of sporting facilities were all urged with great force. Representations were made on behalf of prominent United States cannerymen engaged in the Puget Sound salmon fishing industry, asking that they be given an opportunity of laying their views before the commissioners. Any discussion of the international bearings of the fishery regulations was, however, clearly beyond the scope of the commission as defined in the Order in Council by which it was appointed, and the commissioners decided that any evidence by foreign fishermen or cannerymen could not be received nor their views considered along with the evidence given by residents in British Columbia. On February 22, the commissioners met in Ottawa and reviewed the evidence, of which type written copies had been prepared by the secretary (Mr. T. R. E. McInnes) and placed in the hands of each commissioner.

The following are some of the salient points which the evidence afforded, and they were given as a very much condensed *resumé* of the principal arguments advanced, and

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considerations and recommendations urged, on the one hand by the canners, and on the other hand by the net fishermen and employees :

*Condensed Summary of Points in the Evidence.**Trap and purse seines.*

1. Trap-nets and purse seines are necessary to cheapen cost of salmon, and meet United States competition.
2. Trap-nets in Fuca strait would cut off salmon before reaching United States nets.
3. These nets would break up the schools and lessen United States catches.
4. These nets would take salmon earlier and would lengthen the season at least two weeks for the British Columbia canners and fishermen.
5. White fishermen would find ample employment on such nets.
6. The government should operate trap-nets, and supply salmon at actual cost to canners to secure fair play to all parties.
7. Trap privileges should be put up at auction.
8. In localities where piles are impossible, anchored Scottish nets should be licensed.
9. Trap nets should be confined to waters south of 49th parallel, where main grievances exist.
10. Trap-nets should be allowed on all British Columbia coast, as northern canners also face United States competition.
11. Any surplus of British Columbia fish might be sold to United States canners at best prices obtainable.
12. Trap and purse-nets would not wholly deplete salmon, but would certainly increase the British Columbia catch.
13. The use of these nets would solve the Japanese question, as only white men would be employed.
14. Purse seines would not succeed and should not be allowed. The salmon are *moving fast* and do not collect in the straits.

*Gill-net Fishermen's Views.*

1. Allow no trap-nets or purse seines to canners ; or white men would be left without employment.
2. Reduce the number of gill-net licenses to 2,000, thus excluding Japs and increasing each individual white man's catch.
3. Increase the length of gill-net.
4. Confine licenses to men registered on voters' list.
5. Insist upon registration anterior to fishing season.

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6. Trap-nets and purse seines would involve employment of very few men, leaving numbers unemployed.
7. Trap and purse seines are wasteful: they take all fish, large and small.
8. Trap-nets on west coast of Vancouver island would prevent fish reaching Fraser river, and would destroy and divert from their usual route, the salmon.
9. The weekly close time for drag seines should be shortened to 42 hours, same as gill-nets.

Many interesting statements were made to the commission and important suggestions set forth in evidence, which are not included in the above, but the foregoing summary indicates the nature of much of the information furnished by the witnesses examined, and indicates that lack of unanimity among those vitally interested in the industry which rendered the task of the commissioners an increasingly difficult one. On February 21, Professor Prince completed and handed in his report on the progress made by the commission, and on March 4, the commissioners, with one exception, agreed upon and signed an interim report, which was presented to the Honourable the Minister for his consideration. After reviewing the nature of the intricate and momentous problems involved in present condition of the British Columbia salmon fisheries, the report pointed out that final recommendations could not be made at that stage, and that a full and detailed report, accompanied by suggestions such as the commissioners felt to be necessary, justifiable, and in the interest of all parties concerned in the industry. The report included a recommendation that the weekly close time for salmon, in force in British Columbia, be extended to drag seines, to which under the Department's rules, a longer close time had been applied, viz., 66 hours from Friday at 6 a. m. until Sunday at midnight, whereas all other nets were permitted to be fished, excepting from Saturday at 6 a. m., to Sunday at midnight, a period of 42 hours.

'We need only add, said the commissioners, at the conclusion of their Interim Report, that the appointing of the commission has given great satisfaction throughout the province of British Columbia, and the chairman and individual members of the Commission have had many testimonials from fishermen, cannerymen and others, that the sittings were in every way satisfactory, and that all the interests represented received a full and fair hearing.' The various fishermen's societies on several occasions expressed their appreciation of the work of the commission, an example of which may be given, in an extract from a letter sent from the Grand Lodge (Vancouver) of the British Columbia Fishermen's Union. Mr. Durham, writing on March 30 to the chairman of the Commission, said: 'Our Grand Lodge, of which I am secretary, has instructed me to write to you a letter expressing the fishermen's appreciation of the courtesy and impartiality evinced by yourself and your confrères during the sittings of the commission in British Columbia.'

Unexpected circumstances prevented one member of the commission (Mr. Morrison) from taking an active part in the sittings, and in the preparation of the Interim Report, and the final report, based on the voluminous evidence received, has been of necessity held over on account of the late Mr. Maxwell's illness and death before it was in complete form. The concluding sittings are being arranged, to permit of the commission embodying its report and recommendations at an early date in final form.

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## MARINE BIOLOGICAL STATION, CANSO, N.S.

The Marine Biological Station was located for a second season at Canso, N.S., and the important researches commenced during the season of 1902, have been continued and as far as possible completed during the past year. The weather, especially during the early part of the summer was most unfavourable for carrying on investigations in the sea; but in spite of this and other disadvantages, the work of the station was carried on most vigorously and successfully. Pressing official duties prevented the director of the station, Professor E. E. Prince, Commissioner of Fisheries, from attending during the summer, and conducting investigations; but Professor Ramsay Wright, Assistant Director, zealously directed the researches carried on by the staff, and continued the extensive and elaborate studies upon the 'Plankton' or minute floating life in the sea, which furnishes our important food-fishes with most of their nutriment in the early stages of their existence. Other countries, Germany, France, Norway, the United States, and Great Britain, have long conducted under government auspices oceanic researches of this nature, and have published valuable reports of the astonishing results obtained; but no such systematic work has been hitherto undertaken in Canada, and Professor Wright's forthcoming account of his 'Plankton' investigations carried on during the last two years will be of general interest.

Professor A. P. Knight, Queen's University, Kingston, has also completed his study of dynamite and the use of explosives in the capture of fish, a question of momentous practical importance. Though not present at the station this season, Professor Knight has completed his experiments on the 'saw-dust and fish life' question, and his published conclusions are of great value and interest to the country. Dr. Joseph Stafford, of McGill University, Montreal, who has year after year been one of the most devoted members of the scientific staff of the station, was appointed curator, and in addition, to his assiduous and highly important investigations upon the fauna of the adjacent waters, performed the duties of an expert official, assisting and aiding in the general work of the station. Other members of the staff, in addition to Professor Ramsay Wright, and Dr. Stafford, were Mr. C. McLean Fraser and Mr. George A. Cornish, both of Toronto University. The staff have again felt cramped by not possessing a suitable vessel for dredging and deep-sea work. It is a pressing need, and were the station provided with a small motor-vessel, the operations carried on by the scientific workers would be vastly extended and hastened, and results achieved of the greatest value both from a commercial and economic, as well as from a technical and scientific point of view. Such a tug is, indeed, an absolute necessity for the fishery investigations carried on in connection with the Marine Biological Station.

The series of interesting scientific fishery reports and papers published as a supplement to the annual report of the department for the year 1900, is to be followed shortly by a further set of reports on the subjects indicated above. The matters dealt with by the various members of the staff in the first publication issued from the station are indicated by the titles given below :—

- I.—'Account of the Marine Biological Station of Canada; its Foundation, Equipment and Work,' by Professor Edward E. Prince, Dominion Commissioner of Fisheries, Director of the Station.

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- II.—‘The Effects of Polluted Waters on Fish Life,’ by Dr. A. P. Knight, Professor of Animal Biology, Queen’s University, Kingston, Ont.
- III.—‘The Clam Fishery of Passamaquoddy Bay, New Brunswick,’ (with four plates), by Dr. Joseph Stafford, Department of Zoology, McGill University, Montreal.
- IV.—‘The Flora of St. Andrews, New Brunswick,’ by Dr. James Fowler, Professor of Botany, Queen’s University, Kingston, Ont.
- V.—‘The Food of the Sea Urchin (*Strongylocentrotus*),’ by Dr. F. H. Scott, Physiological Laboratory, University of Toronto.
- VI.—‘The Paired Fins of the Mackerel Shark (*Lamna*),’ by Professor E. E. Prince, Dominion Commissioner of Fisheries, and Dr. A. H. MacKay, Superintendent of Education for the province of Nova Scotia, Halifax, N.S.
- VII.—‘The Sardine Industry in relation to the Canadian Herring Fisheries,’ by B. Arthur Bensley, B.A., &c., late Fellow in Biology, University of Toronto.

And selection of fishery papers now nearly ready for publication, cover a series of subjects no less varied and directly bearing upon the great problems of the fisheries of our Atlantic coast and of the waters of the Dominion generally. During the coming year (1903) the station is to be moved to Prince Edward Island, a suitable location having been selected on the shores of Richmond bay, adjacent to the famous Malpeque oyster beds. This new field of work, it is anticipated will offer problems for solution by scientific research, which will be of the utmost interest and importance to the fisheries especially the oysters fisheries of this portion of the Gulf of St. Lawrence.

#### GEORGIAN BAY BIOLOGICAL STATION.

This scientific station, founded under the auspices of the Dominion government in 1901, has accomplished a varied range of interesting work during the year, and is able to report, through its board of directors some valuable results. The station is located in the vicinity of the Madawaska Club buildings, Go-Home-bay, in the township of Gibson, and about sixteen miles from Midland, Ontario. The object of the station is to carry on fishery and other researches in the waters of Georgian Bay, similar to the work carried on by the Marine Biological Station on the Atlantic coast. The station was not in a sufficiently completed and equipped condition to allow of much work being done in 1901, but in the spring of 1902, systematic investigations were begun, Dr. R. R. Bensley, of the Biological Department, University of Toronto, being appointed Scientific Director. Having, shortly after his appointment, been chosen professor in the University of Chicago, he was precluded from carrying on researches in Georgian bay, and a successor could not be secured until August, when Dr. B. A. Bensley, also of Toronto University, was charged with the superintendence of the scientific operations at the station. A good deal of work was accomplished during the season of 1902, including a hydrographic survey of the locality by Professor C. A. C. Wright, of the School of Practical Science, Toronto, a systematic study of the fauna and flora of the vicinity, special attention being paid to the fishes. Gill-nets, hoop-nets, hand seines, and cheese-cloth tow-nets were used, and of the specimens obtained comparative studies were made of the adults, coloration, food, &c., while the young and immature specimens are to be utilized for ascertaining the nature of the food, rate of growth, &c. Next season

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the eggs will be studied, and the enemies of the ova and young fish will receive special attention. Mr. Anderson, with the assistance of Mr. Carr, made collections of the larger forms, birds, mammals, &c., and specimens were duly preserved for museum and laboratory use. The plant-life of Georgian bay was to some extent investigated. In addition to the hydrographic and biological work referred to, experimental bass-hatching was arranged for, a small lake having been prepared for operations next spring.

During the months of June, July, August and September, daily meteorological observations were made and accurately recorded. The station is now fairly equipped with boats, a barge, work-tables, aquaria, chemicals, glass-ware, &c., and the United States National Museum has presented to the station the valuable volumes (four) on the Fishes of the North and Middle States by Drs. Jordan and Evermann. It need only be added that under the presidency of Principal Burwash, Victoria University, Toronto, and with the scientific staff, chiefly members of the Madawaska Club, whose services will be devoted to the station's work, this Biological Laboratory will rapidly establish itself as a centre of valuable and important fisheries' investigation.

## THE BEHRING SEA QUESTION AND PELAGIC SEALING.

Diplomatically this question remains unchanged, and the sealing business, so far as conducted by British subjects, continues to be regulated by the legislation which gave effect to the Paris Award of 1893.

The sealing fleet during the year 1902, aggregated thirty-four vessels, representing 2,428 tons register, with crews comprising 421 white men and 437 Indians, using 129 boats and 206 canoes. These thirty-four vessels were so distributed at different times during the season that thirty-one of them participated in the North American coast catch, thirteen in the Behring sea fishery, nine in the waters contiguous to the Japanese coasts and eight in those in the vicinity of the Russian seal islands.

North American coast catch, including the Indian inshore coast catch.....	6,279
Japanese coast catch.....	3,331
Catch in vicinity of Russian Seal islands.....	1,340
Behring Sea catch.....	5,193
Total .....	16,143

In addition to the above, there were landed at Victoria and shipped to London, 582 skins from the Japanese schooner *Siefu*, which vessel, having met with severe gales in Behring Sea, was driven to Victoria in a badly damaged condition.

Notwithstanding the smallness of the catch this year, the venture on the whole seems to have been satisfactory, as the prices at the London sales ruled high,—said to be the highest on record. The skins from Cape Horn brought 73s. 6d.; the British Columbia Indian canoe catch, 76s. 3d.; British Columbia coast catch, 82s. 9d., and the Behring sea catch, 91s. 6d., so that on the whole, the season was a fairly remunerative one.

The sealers continued to exploit Asiatic waters this season, showing an increase of one on the Japanese coast (9), while the number that visited the waters in the vicinity

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of the Russian Seal Islands was the same as last year (8), although the sealing fleet was smaller.

In this connection it may be noted that the sealers appear to be paying more attention to the waters of the Japan sea than in previous years, when they practically confined their operations to the main Pacific ocean, on the outer coast of Japan.

There have been no complaints of any violations or transgressions of the law this year, and no difficulties have been experienced from patrol vessels. The Collector of Customs at the port of Victoria reports that the entries in the logs of the schooners were carefully and accurately made, which, under the adverse circumstances of boisterous weather, is very gratifying as well as being complimentary to the sealers.

The weather was exceedingly boisterous during the season, especially in the earlier part, and three vessels were lost, viz.: *R. I. Morse*, which capsized, one seaman being washed overboard, but the others were rescued and brought to Victoria; also the schooner *Hatzic*, with a crew of seven white men and twenty-four Indians, supposed to have gone down with all hands near Cape Scott, on Vancouver Island, as no vestige of her has ever been found. In addition to the above the *South Bend*, the smallest schooner in the fleet, is supposed to have been lost, with a crew of fifteen men, while a canoe, with two Indian hunters, was lost from the *Penelope*, and one man was drowned from the schooner *Annie E. Paint*.

The bounty system instituted a few years ago by the Japanese government for the development of the deep-sea fisheries, &c., seems to have proved a great incentive to participation in the sealing business, as during the season there were nineteen vessels flying the Japanese flag sealing off the Japan coast, the catches of which aggregated 9,780 seal skins, and it also seems from such information as is available, that they have taken advantage of their position under the Paris Award over British sealers in Behring Sea, being unrestricted by the Award Regulations, which apply now practically to British subjects only, as the United States government has since that award prohibited the sealers of that country from engaging in the business.

#### *Arbitration of Seizure of Sealing Vessels by Russia in 1902.*

There is no change in the position of this question, and although it has continued to form the subject of diplomatic correspondence no agreement has yet been reached as to the precise terms of reference of the claims to the arbitrator.

#### GENERAL STATISTICS OF FISHERIES.

##### *Expenditure and Revenue.*

The statements of the total expenditure for the different services connected with the fisheries of Canada during the last fiscal year, amounting to \$549,670, form the first appendix of this report. This amount comprises: fisheries proper, \$104,880; fish culture, \$79,891; fisheries protection service, \$152,825; miscellaneous expenses, \$56,131, including also the \$155,942 distributed as fishing bounties.

The total amount received during the same period as revenue from fishery licenses, fines, &c., in the different provinces of Canada is given at \$79,169. This sum also includes the *modus vivendi* licenses granted the United States fishing vessels (\$11,223.)

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A comparative statement of all fisheries expenditure and revenue for the last fourteen years concludes this appendix.

Full details of these different expenditures may be found in the Auditor General's report, under their respective headings.

## FISHING BOUNTIES.

During the year 1901, the deep-sea fishermen of the maritime provinces received the sum of \$155,942 as fishing bounties on their catch of fish for that season. Of this amount \$69,091 was divided among the owners and crews of 786 vessels, and \$86,850 was distributed to 21,217 boat fishermen. These different amounts covered the payment of 13,374 claims. Thirty-two were refused payment as being fraudulent.

For the last year Nova Scotia received nearly double the amount of bounty distributed to all the other provinces together, amounting to \$101,024. Quebec's share was \$33,161; New Brunswick, \$13,420; Prince Edward Island, \$8,335.

Since its inception (1882) the sum of \$3,156,113 has been distributed among the fishermen of the above mentioned provinces to stimulate the development of their sea fisheries.

The regulations governing the payment of such fishing bounties, as well as full particulars respecting their distribution, will be found in Appendix No. 2.

## EXTENT OF COAST.

The fisheries of Canada are the most extensive of the world, extending on our immense sea-coast line, besides innumerable lakes and rivers. The eastern sea-coast of the maritime provinces from the Bay of Fundy to the Strait of Belle Isle covers a distance of 5,600 miles, while the western sea-coast of British Columbia is reckoned at 7,180 miles, or more than double that of Great Britain and Ireland. While the salt water in shore area, not including minor indentations covers more than fifteen hundred square miles, the fresh water area of that part of the Great Lakes belonging to Canada is computed at 72,700 square miles, not including the numerous lakes of Manitoba and the North-west Territories, all stocked with excellent species of good fish.

## CAPITAL INVESTED IN FISHERIES OF CANADA AND NUMBER OF FISHERMEN.

The following table shows that 78,290 men were engaged during the season of 1901 in our fishing industry, using 5,837,677 fathoms of nets, and other fishing gear representing a capital of \$11,491,300.

The lobster plant alone is estimated at \$1,388,907, comprising 855 canneries dispersed on the sea coast of the maritime provinces. No less than 15,315 persons were employed in this branch of the fishing industry.

The salmon canning industry of British Columbia for the year 1901, comprising seventy-seven establishments valued at a million and a-half dollars, gave employment to 18,941 persons, and preserved over fifty-nine million cans of salmon.

The sealing fleet in the same province for 1901 consisted of thirty-nine schooners, 139 boats, 226 canoes, valued at \$370,000 and manned by over 900 sailors and hunters.



## RECAPITULATION.

Showing the Value of Fishing Vessels, Boats, Nets, &c., and of all the Capital invested in the Fishing Industry of Canada in 1901.

PROVINCES.	FISHERMEN IN		VESSELS.			BOATS.		GILL NETS AND SEINES.		Value of Pound and Trap Nets, &c. Trawls, &c.	Value of Lobster Plant.	Approximate Value of Freezers, Ice and other fixtures.	TOTAL VALUE.
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Rathoms.	Value.				
Nova Scotia .....	5,607	19,367	527	24,119	1,055,515	13,564	271,967	1,841,927	523,544	231,183	659,425	577,700	\$ 3,310,334
New Brunswick .....	1,144	11,558	314	4,138	145,775	6,825	227,816	1,143,077	721,985	303,983	348,886	485,490	2,233,825
Prince Edward Island .....	153	4,160	25	596	11,600	2,325	58,390	89,346	33,564	16,705	261,490	43,840	425,589
Quebec .....	173	11,058	33	1,126	21,145	7,943	212,332	297,063	198,442	158,686	119,156	244,900	954,661
Ontario .....	489	2,313	*101	1,801	244,235	1,269	84,629	1,214,509	181,368	155,526	.....	81,163	750,921
British Columbia .....	{ 504 +908	{ 18,942 }	{ 168 +39	{ 4,200 2,791	{ 353,000 370,500	{ 4,988 365	{ 301,370 23,900	{ 797,200 }	606,437	9,125	.....	1,695,750	3,360,082
Manitoba and N.W. Territories .....	170	2,744	*24	1,497	215,910	927	31,893	454,555	46,847	1,300	.....	150,938	446,888
Totals .....	9,148	60,142	1,231	40,358	2,417,080	38,186	1,212,297	5,837,677	2,312,187	880,508	1,388,907	3,279,721	11,491,300

+Scaling fleet. †Sailors and seal hunters. \*Mostly tugs.

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## RECAPITULATION.

## STATEMENT of the Lobster Industry in Canada, 1901.

PROVINCES.	Number of persons em- ployed.	PLANT.				CATCH.					
		Number of Canneries.	Value.	Number of Traps.	Value.	Total value of Plant.	Number of 1- lb. Cans.	Value.	Fresh or Alive, cwt.	Value.	Total value of Catch.
Nova Scotia.....	5,555	258	218,909	702,232	440,516	659,425	5,003,023	1,000,603	146,488	1,113,485	2,114,088
New Brunswick.....	5,011	221	127,160	251,620	221,676	348,836	1,842,340	368,468	17,605	120,566	489,034
Prince Edward Island.....	2,728	225	95,520	280,880	165,970	261,490	2,386,070	477,214	32	160	477,374
Quebec .....	2,021	151	48,750	128,720	70,406	119,156	825,171	165,034	70	350	165,384
Total .....	15,315	855	490,339	1,363,512	898,568	1,388,907	10,066,604	2,011,319	164,195	1,234,561	3,245,880

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COMPARATIVE TABLE showing Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Materials employed, from 1879 to 1901.

Year.	VESSELS.			BOATS.		Value of Nets and Seines.	Value of other Fishing Material.	Total of Capital Invested.
	No.	Tonnage.	Value.	No.	Value.			
			\$		\$	\$	\$	\$
1879.....	1,183	43,873	1,714,917	25,616	854,289	988,698	456,617	4,014,521
1880... ..	1,181	45,323	1,814,688	25,266	716,352	985,978	419,564	3,936,582
1881.....	1,120	48,389	1,765,870	26,108	696,710	970,617	679,852	4,113,049
1882.....	1,140	42,845	1,749,717	26,747	833,137	1,351,193	823,938	4,757,985
1883.....	1,198	48,106	2,023,045	25,825	733,186	1,243,366	1,070,930	5,120,527
1884.....	1,182	42,747	1,866,711	24,287	741,727	1,191,579	1,224,646	5,014,663
1885... ..	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1886.....	1,133	44,605	1,890,411	28,187	850,545	1,263,152	2,720,187	6,814,295
1887.....	1,168	44,845	1,989,840	28,092	875,316	1,499,328	2,384,356	6,748,840
1888... ..	1,137	33,247	2,017,558	27,384	859,953	1,594,992	2,390,502	6,863,005
1889... ..	1,100	44,936	2,064,918	29,555	965,010	1,591,085	2,149,138	6,770,151
1890.....	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641
1891... ..	1,027	39,377	2,125,355	30,438	1,007,815	1,644,892	2,598,124	7,376,186
1892.....	988	37,205	2,112,875	30,513	1,041,972	1,475,043	3,017,945	7,647,835
1893.....	1,104	40,096	2,246,373	31,508	955,109	1,637,707	3,174,404	8,681,557
1894.....	1,178	41,768	2,409,029	34,102	1,009,189	1,921,352	4,099,546	9,439,116
1895... ..	1,121	37,829	2,318,290	34,268	1,014,057	1,713,190	4,208,311	9,253,848
1896.....	1,217	42,447	2,041,130	35,398	1,110,920	2,146,934	4,527,267	9,826,251
1897... ..	1,184	40,679	1,701,239	37,693	1,128,682	1,955,304	4,585,569	9,370,794
1898.....	1,154	38,011	1,707,180	38,675	1,136,943	2,075,928	4,940,046	9,860,097
1899.....	1,178	38,508	1,716,973	38,538	1,195,856	2,162,876	5,074,135	10,149,840
1900... ..	1,212	41,307	1,940,329	38,930	1,248,171	2,405,860	5,395,765	10,990,125
1901... ..	1,231	40,358	2,417,680	38,186	1,212,297	2,312,187	5,519,136	11,491,300

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COMPARATIVE TABLE showing the number of men employed in the Fishing Industry since 1879.

Year.	Number of Persons in Lobster Canneries.	Number of Men in Vessels.	Number of Men in Boats.	Total Number of Fishermen.	Total Number of Persons in Fishing Industry.
1879.....		8,818	52,577	61,395	
1880.....		8,757	51,900	60,657	
1881.....		8,359	50,679	59,056	
1882.....		8,498	52,785	61,283	
1883.....		9,966	52,250	62,225	
1884.....		9,968	51,854	61,822	
1885.....		9,539	53,282	62,821	
1886.....		8,927	53,073	62,000	
1887.....		8,911	55,247	64,158	
1888.....		9,574	53,109	62,683	
1889.....		9,621	55,382	65,003	
1890.....		8,726	55,000	63,726	
1891.....		8,666	56,909	65,575	
1892.....		8,330	55,348	63,678	
1893.....		8,899	58,854	67,753	
1894.....		9,525	61,194	70,719	
1895.....	13,030	9,804	61,530	71,334	84,364
1896.....	14,175	9,735	66,502	75,237	89,412
1897.....	15,165	8,879	70,080	78,959	94,124
1898.....	16,548	8,657	72,877	81,534	98,082
1899.....	18,708	8,970	70,893	79,893	98,601
1900.....	18,205	9,205	71,859	81,064	99,269
1901.....	15,315	9,148	69,142	78,290	93,605

## VALUE OF THE FISHERIES.

The total value of fish and fish products in Canada for the year 1901 aggregates \$25,737,153, exceeding the previous catch by over *four million dollars*. This amount is the largest production ever yielded by the Canadian waters and shows an increase of \$3,000,000 over the highest catch ever published in the Fisheries reports in any previous year.

The following table shows to which of the provinces of the Dominion this unprecedented surplus is mostly ascribed :

Provinces.	Value of all Fish.	Increase.	Decrease.
Nova Scotia . . . . .	\$ 7,989,548	\$ 180,396	
British Columbia . . . . .	7,942,771	3,063,961	
New Brunswick . . . . .	4,193,264	423,522	
Quebec . . . . .	2,174,459	185,180	
Ontario . . . . .	1,428,078	94,784	
Prince Edward Island . . . . .	1,050,623		\$ 8,570
Manitoba and North-west Territories . . . . .	958,410	240,251	
Net increase . . . . .		\$ 4,179,514	

As will be noticed there is an increase in every province of the Dominion, except in Prince Edward Island, where the decrease is purely nominal. Of course the surplus of over three million dollars in British Columbia is due to the extraordinary pack of salmon in this province for that year. The surplus of nearly half a million dollars in New Brunswick is the next in importance and can be ascribed to the large yield of the herring industry. The other provinces also contribute fair increases over the yield of the preceding year, and all helped to produce the largest aggregate value ever published in our annual report for any one year.

The features of the various fisheries are fully explained by the different inspectors in their respective returns, forming the appendices 3—10 of this report.

The figures here given do not include all the enormous quantity of fish consumed by the Indians of British Columbia, the Yukon district and the remoter parts of the North-west Territories, where their staple food consists of fish.

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The following statement shows the relative values of the principal kinds of commercial fishes (above \$100,000) for the year 1901 as compared with those of the previous year.

Kinds of Fish.	Value.	Increase.	Decrease.
	\$	\$	\$
Salmon.....	7,221,387	3,328,170	
Cod.....	4,039,394	424,619	
Lobsters.....	3,246,881	190,531	
Herring.....	1,865,394	12,157	
Mackerel.....	1,372,459		176,989
Whitefish.....	783,464	78,141	
Haddock.....	782,163	174,096	
Trout.....	663,642	6,394	
Sardines.....	562,965	254,944	
Smelts.....	485,874	10,870	
Halibut.....	394,021		11,942
Pickarel.....	339,686	95,937	
Hake.....	304,212		216,292
Pollock.....	227,218	10,968	
Oysters.....	179,488	11,808	
Pike.....	172,941	77,040	
Alewives.....	139,428		22,586
Sturgeon.....	133,264		72,398
Eels.....	124,590		864

The quantity of fish used as bait is valued at \$414,296, that of fish oil at \$226,724, while the fur seal skins of British Columbia realized \$366,330.

A glance at the above table will show that out of nineteen of the principal species of fish only six indicate a falling off, one of them being purely nominal. Of the five principal commercial kinds aggregating millions, mackerel only has declined. The most pronounced fluctuation is that of salmon, which last year showed a decrease of over half a million dollars, while this year (1901) a surplus of forty per cent is noticed. In fact the enormous pack of British Columbia salmon, of nearly sixty million cans, has by far exceeded the production of any previous year in the history of this industry. Besides this, nearly nine million pounds of fresh and salted salmon were placed on the market by that province alone.

The other most important fluctuations in the sea fisheries are in cod, which is nearly half a million, in sardines over a quarter of a million, and even in lobsters there is a fair increased value. In the fresh water fisheries, while whitefish and trout show a slight improvement, pickerel has a betterment of almost one hundred thousand dollars.

From the year 1869 to 1901 inclusive, the five principal commercial fishes have yielded the following enormous values:—

Cod.....	\$121,171,295
Salmon.....	70,217,775
Lobster.....	65,511,358
Herring.....	64,383,547
Mackerel.....	42,605,334

## EXPORT OF FISH.

During the last fiscal year the value of fish and fish products, as well as marine animals exported from Canada to foreign countries, was \$14,143,249.

Details of these fish exports will be found in the annual report of the Department of Customs for 1902.

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## RECAPITULATION.—Showing the production of the Fisheries

Number.	Kinds of Fish.		NOVA SCOTIA.		BRITISH COLUMBIA.		NEW
			Quantity.	Value.	Quantity.	Value.	Quantity.
				\$		\$	
1	Cod, dried.....	Cwt.	656,603	2,626,412	4,920	24,600	93,869
	" tongues and sounds.....	Brls.	892	8,920			176
2	Haddock, dried.....	Cwt.	130,848	392,544			5,000
	" fresh.....	Lbs.	4,687,966	140,638			696,100
	" smoked, (finnan haddies).....	Lbs.	2,103,100	126,186			1,162,800
3	Hake, dried.....	Cwt.	84,794	190,787			24,714
	" sounds.....	Lbs.	49,898	24,949			19,125
4	Pollock.....	Cwt.	87,632	175,264			25,887
5	Tom cod or frost fish.....	Lbs.	223,995	11,199			1,909,500
6	Halibut.....	"	803,049	80,305	5,701,000	285,050	122,200
7	Flounders.....	"	1,446,956	72,348			163,500
	Salmon, fresh.....	"	572,214	114,443	2,128,805	212,880	1,422,200
	" preserved in cans.....	"	5,563	834	59,864,176	5,986,618	8,690
8	" smoked.....	"	7,440	1,488	301,000	30,100	5,350
	" pickled.....	Brls.	87	1,305	7,931	79,310	
	" dry salted.....	Lbs.			6,476,207	259,048	
9	Trout.....	"	97,351	9,735	323,300	32,330	217,500
10	Ouananiche.....	"					
11	Whitefish.....	"					
12	Smelts.....	"	459,112	22,950	101,500	5,075	8,033,220
13	Oulachons.....	"			1,290,500	65,950	
	Herring, salted.....	Brls.	67,795	271,180			174,158
	" fresh.....	Lbs.	5,792,850	57,928	960,000	28,800	8,044,000
14	" smoked.....	"	695,850	13,917	182,500	18,250	12,153,050
	" kippered in cans.....	"					136,600
15	Sardines, preserved.....	Cans.					1,715,000
	".....	Brls.					234,628
16	Shad.....	"	987	9,870	50	500	6,547
17	Alewives.....	"	13,129	52,556			20,408
18	Pike.....	Lbs.					
19	Maskinonge.....	"					
20	Eels, salted.....	Brls.	2,420	24,200			2,235
	" fresh.....	Lbs.					
21	Perch.....	"					
22	Pickarel.....	"					180,500
23	Basas (sea).....	"	19,000	1,900			189,300
24	" (achigan).....	"					
25	Mackerel, salted.....	Brls.	47,909	718,635			525
	" fresh.....	Lbs.	2,140,222	256,826			866,000
26	Sturgeon.....	"			65,000	3,250	2,000
	" caviare and bladders.....	"			800	400	100
	Lobsters, canned.....	"	5,003,023	1,000,604			1,842,340
27	" alive or fresh.....	Cwt.	146,488	1,113,485			17,605
28	Oysters.....	Brls.	1,630	6,760		15,000	14,460
29	Clams.....	"	1,518	5,754		23,600	
30	Squid.....	"	22,423	89,692			2,483
31	Coarse and mixed fish.....	"	39,236	78,472		48,500	5,935
	".....	Lbs.			489,500	24,475	
32	Home consumption (not included above).....	"				370,000	
33	Fur seal skins (in B.C.).....	No.			24,422	366,330	
34	Hair seal skins.....	"	66	83	4,100	3,075	259
35	Belugas (white whales) skins.....	"					
36	Fish used as bait.....	Brls.	91,209	136,813			93,209
37	Fish used as fertilizer.....	"	105,352	52,676	3,000	9,000	120,110
38	Fish oil.....	Galls.	326,280	97,884	152,100	45,630	45,670
	Totals.....			7,989,548		7,942,771	

\* Add 10 sea otter skins, \$5,000.

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in the different Provinces of Canada for the Year 1901.

BRUNSWICK.	QUEBEC.		ONTARIO.		P. E. ISLAND.		MANITOBA AND N. W. TERRITORIES.		Number.
Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
\$		\$		\$		\$		\$	
375,476	227,035	908,140			22,159	88,636			1
1,760	258	2,580			287	2,870			
15,000	3,532	10,506			750	2,250			
20,583	34,000	1,020			12,000	360			2
71,520	513	1,154			5,200	312			
55,607					7,390	16,628			
9,562					13,359	6,679			3
51,774					60	180			
95,475	716,500	14,325			9,600	480			
12,220	159,012	15,901			5,450	545			4
8,175									
284,440	1,196,981	239,396			1,807	360			
1,302					1,200	180			5
1,070	1,440	288							
	555	8,325							
21,750	367,317	36,732	5,803,367	554,427	35,825	3,583	101,700	5,085	6
	31,000	3,100							
	80,805	6,465	3,216,540	240,670			10,546,600	527,330	
401,661	392,700	19,635			730,947	36,547			7
696,632	30,803	123,212	2,381	9,526	32,683	130,732			8
80,440	889,340	8,893	7,793,438	155,869	783,440	7,834			
243,061	123,000	2,460			150,000	3,000			
13,660									9
85,750									
469,256	2,653	7,959							
65,470	108	1,084							10
81,632									
					1,310	5,240			
	363,130	14,525	1,856,255	74,250			4,208,300	84,166	11
	52,950	3,177	564,596	33,876					
22,350	187	1,870			905	9,050			
	1,043,480	62,609	75,190	4,511					12
	338,870	10,166	1,066,087	31,982			34,000	680	
9,025	396,625	19,831	3,054,057	152,703			5,270,900	158,127	
18,930									13
	146,195	11,696	412,525	33,002					
7,875	12,424	186,360			6,100	91,500			
103,920	5,500	660			55,693	6,683			14
200	197,415	11,845	568,090	34,085			727,000	42,380	
50			41,150	21,054			20,000	20,000	
368,468	825,171	165,034			2,386,070	477,214			15
120,566	70	350			32	160			
57,840					24,972	99,888			
68,610					140	560			16
9,932	4,451	17,804			1,647	6,588			
11,870					1,335	3,160			
16,440	3,349,060	33,891	2,500,680	73,123			7,261,000	105,870	17
							738,600	14,772	
343	15,461	19,326			16	32			18
	28	112							
139,813	61,870	92,805			29,910	44,865			
60,055	89,382	44,691			2,880	1,440			19
13,701	221,474	66,442			10,222	3,067			
4,193,264		2,174,459		1,428,078		1,050,623		958,410	38



## RECAPITULATION.

OF the Yield and Value of the Fisheries in the Dominion of Canada for the Year 1901.

No.	Kinds of Kinds.		Quantity.	Value.	Total Value.
1	Cod.....	Cwt.	1,004,586	\$4,023,264	4,039,394
	" tongues and sounds .....	Brls.	1,613	16,130	
2	Haddock, dried.....	Cwt.	140,130	420,390	782,163
	" fresh.....	Lbs.	5,420,056	162,601	
	" smoked (finnan haddies).....	"	3,271,613	199,172	
3	Hake, dried.....	Cwt.	116,898	263,022	304,292
	" sounds.....	Lbs.	82,382	41,190	
4	Pollock.....	Cwt.	113,579	227,218	227,218
5	Tom-cod, or frost fish.....	Lbs.	2,859,595	121,497	
6	Halibut.....	"	6,790,711	394,021	80,523
7	Flounders.....	"	1,610,456	32,946	
	Salmon, fresh.....	"	5,322,000	851,519	5,988,934
	" preserved in cans.....	"	59,879,619	32,946	
8	" smoked.....	"	315,230	88,940	259,048
	" pickled.....	Brls.	8,573	88,940	
	" dry salted.....	Lbs.	6,476,207	259,048	7,221,387
9	Trout.....	"	6,946,360	663,642	
10	Ouananiche.....	"	31,000	3,100	783,465
11	Whitefish.....	"	13,843,945	783,465	
12	Smelts.....	"	9,717,479	485,874	65,950
13	Oulacnons.....	"	1,290,500	65,950	
	Herring, salted.....	Brls.	307,820	1,231,282	1,365,394
14	" fresh.....	Lbs.	24,263,068	339,764	
	" smoked.....	"	13,304,400	230,688	1,865,394
	" kippered in cans.....	"	136,600	230,688	
15	Sardines, preserved.....	Cans.	1,715,000	85,750	562,965
	".....	Brls.	237,281	477,215	
16	Shad.....	"	7,692	76,924	139,428
17	Alewives.....	"	34,857	139,428	
18	Pike.....	Lbs.	6,427,685	172,941	37,053
19	Maskinonge.....	"	617,546	37,053	
20	Eels, salted.....	Brls.	5,749	57,470	124,590
	" fresh.....	Lbs.	1,118,670	67,120	
21	Perch.....	"	1,438,957	42,827	339,686
22	Pickrel.....	"	8,902,082	339,686	
23	Bass (sea).....	"	208,300	20,830	44,698
24	Bass (Achigan).....	"	558,720	44,698	
25	Mackerel, salted.....	Brls.	66,958	1,004,370	1,372,459
	" fresh.....	Lbs.	3,067,415	368,089	
26	Sturgeon.....	Lbs.	1,560,105	91,760	183,264
	" caviare.....	"	62,050	41,504	
27	Lobsters, canned.....	"	10,066,604	2,011,320	3,245,881
	" alive or fresh.....	Cwt.	164,195	1,234,561	
28	Oysters.....	Brls.	44,122	179,488	98,524
29	Clams.....	"	31,004	98,524	
30	Squid.....	"	58,631	124,016	253,799
31	Coarse and mixed fish.....	Lbs.	13,970,740	142,002	
	".....	"		253,799	395,901
32	Home consumption, not included above.....	"		395,901	
33	Beluga (white whales) skins.....	No.	28	384,772	112
34	Fur seal skins (B.C.).....	"	24,422	112	
35	Hair.....	"	19,902	366,330	22,859
36	Fish used as bait.....	Brls.	276,198	22,859	
37	" fertilizer.....	"	320,724	414,296	167,862
38	Fish oil.....	Galls.	765,746	167,862	
39	Sea otter (in B.C.).....	No.	10	226,724	5,000
				5,000	
Total for 1901.....					25,737,153
" 1900.....					22,557,639
Increase.....					4,179,514

## RECAPITULATION

Showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1901, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

Year.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	Ontario.	British Columbia.	Manitoba and North-west Territories.	Total for Canada.
1870.	\$ 4,019,425	\$ 1,131,433	No data.	\$ 1,161,551	\$ 264,982	No data.	\$ No data.	\$ 6,577,391
1871.	5,101,030	1,185,033	"	1,093,612	193,524	"	"	7,573,199
1872.	6,016,835	1,965,459	"	1,320,189	287,633	"	"	9,570,116
1873.	6,577,085	2,285,662	207,596	1,391,564	293,091	"	"	10,764,997
1874.	6,652,302	2,685,794	288,863	1,608,660	446,267	"	"	11,681,886
1875.	5,573,451	2,427,654	298,927	1,596,759	453,194	"	"	10,350,385
1876.	6,029,050	1,953,389	494,967	2,097,638	437,229	104,607	"	11,117,000
1877.	5,527,858	2,133,237	763,096	2,560,147	438,223	583,433	"	12,005,834
1878.	6,131,600	2,305,790	840,344	2,664,055	348,122	925,767	"	13,295,678
1879.	5,752,937	2,554,722	1,402,301	2,320,395	367,133	631,766	"	13,529,254
1880.	6,201,051	2,744,477	1,675,069	2,631,556	444,491	713,335	"	14,499,979
1881.	6,214,782	2,980,904	1,955,290	2,751,962	509,903	1,454,321	"	15,817,162
1882.	7,131,418	3,192,339	1,856,687	1,976,516	825,457	1,842,675	"	16,824,092
1883.	7,689,374	3,195,674	1,272,468	2,138,997	1,027,033	1,644,646	"	16,958,192
1884.	8,763,779	3,730,454	1,085,619	1,694,561	1,133,724	1,358,267	"	17,766,404
1885.	8,283,922	4,005,431	1,293,490	1,719,460	1,342,692	1,078,038	"	17,722,973
1886.	8,415,362	4,180,227	1,141,991	1,741,382	1,435,998	1,577,348	186,980	18,679,298
1887.	8,379,782	3,559,507	1,037,426	1,773,567	1,531,850	1,974,887	129,084	18,386,103
1888.	7,817,863	2,941,863	876,862	1,860,012	1,839,869	1,902,195	180,677	17,418,510
1889.	6,346,722	3,067,039	886,480	1,876,194	1,963,123	3,348,067	167,679	17,655,256
1890.	6,636,444	2,699,055	1,041,109	1,615,119	2,009,637	3,481,432	232,104	17,714,902
1891.	7,011,800	3,571,050	1,238,733	2,008,678	1,806,389	3,008,755	332,969	18,977,878
1892.	6,940,724	3,203,922	1,179,866	2,236,732	2,042,198	2,849,483	1,006,254	18,941,171
1893.	6,407,279	3,746,121	1,133,368	2,218,905	1,694,430	4,443,963	1,042,083	20,686,161
1894.	6,547,387	4,351,526	1,119,738	2,303,386	1,658,968	3,950,478	787,087	20,719,573
1895.	6,213,131	4,403,158	976,836	1,867,920	1,584,473	4,401,354	752,466	20,199,398
1896.	6,070,895	4,799,433	976,126	2,025,754	1,605,674	4,183,999	745,543	20,407,425
1897.	8,090,346	3,934,135	964,949	1,737,011	1,289,922	6,138,865	638,416	22,783,546
1898.	7,226,034	3,849,357	1,070,202	1,761,440	1,433,632	7,113,101	613,355	19,667,121
1899.	7,347,604	4,119,891	1,043,645	1,953,134	1,590,447	5,214,074	622,911	21,891,706
1900.	7,803,152	3,769,742	1,059,193	1,989,279	1,333,294	4,878,820	718,159	21,557,639
1901.	7,980,548	4,193,264	1,050,623	2,174,459	1,428,078	7,942,771	958,410	25,737,153

## FISH CULTURE.

The Fish-breeding report for the year 1902, by Professor E.E. Prince, Commissioner of Fisheries, forms Appendix 11 of this publication. It embraces, besides the usual summary of the work done at the several hatcheries, the report of the Inspector of Hatcheries, and the reports of the officers in charge of the operations at the fish-breeding institutions in the various provinces. Seventeen hatcheries were operated under the supervision of the department, and nearly three hundred millions of fry were incubated and successfully hatched and distributed in the lakes, rivers, streams, and, in the case of the lobster, the inshore waters of the Dominion. Of the total quantity of fry just named 120,000,000 were young lobsters and about 108,000,000 were lake whitefish (*Coregonus*). The new hatcheries at Gaspé, province of Quebec, North East Margaree, province of Nova Scotia, and Skeena River, northern British Columbia have been operated for the first time.

A most successful shipment of Black Bass, fingerlings, half-grown and full grown specimens was made in charge of Mr. F. H. Cunningham, to the North-west Territories. A quantity (15,000,000) of pickerel (pike-perch or doré) were hatched at Sandwich this year, after an interval of many years. On the whole the fish-culture operations for 1902 are amongst the most successful on record.

## OYSTER CULTURE.

Mr. Ernest Kemp, the Department's Oyster Expert, furnishes a full and detailed report of the season's work as an annex to the Fish-culture appendix. The work of oyster-culture has long been incommoded and hindered by the lack of a suitable tug for carrying on the cleaning, seeding, and stocking operations included in the work of oyster culture. This season, a new steamer, the *Ostrea*, specially built for the purpose, was completed and is in command of Mr. Kemp, who reports her to be most satisfactory, and in every way admirably adapted for the work in which she is specially engaged. Her dimensions are 50 ft. keel, 13 ft. beam, 4½ ft. deep and she draws only 4 ft. of water. Mr. Kemp himself decided most of the details of her build, and the plans and specifications followed closely his ideas as to the kind of boat necessary to help him in his oyster-culture operations. Of the various oyster areas to which he devoted attention during the season Mr. Kemp reports most favourably of the Murray Harbour, P.E.I., reserve. The oysters planted are doing well, and a small amount of seedlings were noticed. All the bed required was a little raking, which was done, and more effective supervision by a resident officer, which Mr. Kemp strongly urges. Other localities, Savage Harbour and lots 6 and 10, Prince Edward Island, are not of great promise, owing to the nearness of mussel beds, which are seriously harmful to oysters. If reserves in the rivers on lots 6 and 10 were established, the oysters existing could be saved and oyster areas re-established especially by the strict enforcement of the close season and of the size limit. The Shediac beds, after having been less closely supervised by Mr. Kemp, received much personal attention this year as they needed cleaning on account of the accumulation of weeds and sediment. The limits of clam-fishing were decided when Mr. Kemp was on the beds with Inspector Chapman, and in addition to the Order in Council in the matter, dated Dec. 16, 1902, Mr. Kemp makes some further suggestions in the direction of the better protection of both oysters and clams. He, further, points out that our existing oyster beds will be destroyed unless the system of

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leases or licenses to private parties be carried out and extended, on the lines of the Department's system prior to the fisheries decision 1898.

## FISHERIES PROTECTION SERVICE.

In appendix 12 of this publication will be found the usual report on the operations of our Fisheries Protection Service during the season of 1902, by Commander O. G. V. Spain. This service has again been carried on in a very satisfactory manner, and the only accident reported to any cruisers was to the *Acadia* while at the disposal of His Excellency the Governor General at Quebec.

The fleet consisted of the same cruisers as last year, viz.: *Acadia*, *La Canadienne*, *Curlew*, *Kingfisher*, *Osprey*, *Petrel*, *Quadra*, *Brant* and *Constance*.

The *Quadra* is partly employed in the protection service of British Columbia coast; the *Petrel* cruises in the Great Lakes of Ontario; the others are protecting the Gulf of St. Lawrence and Atlantic coast.

The number of United States vessels taking advantage of the *modus vivendi* licenses was eighty-nine, being seven more than during the previous season.

The long list of 267 foreign fishing vessels calling at our ports shows the importance of our harbours to these bankers on their different trips to the Great Banks.

A great many nets were seized by the captain of the *Petrel*, set in our waters of Lake Erie, by the United States fishermen. Captain Pratt of the *Curlew* also seized a couple of foreign vessels fishing with dynamite in our waters, but generally there was no serious trouble with our neighbour fishermen.

At the end of the season, Captain Spain and several of his officers devoted much time and labour in protecting our coast from lobster poachers and succeeded in destroying thousands of illegally set traps.

*Intelligence Bureau.*

A detailed report of the operation of this Bureau which also comes under the officer commanding the fisheries protection service is annexed to this appendix.

There are now 53 reporting stations dispersed on the coast of the maritime provinces. This report is by Mr. McKerrow, of Halifax.

## BAIT COLD STORAGE.

The system of bait cold storage has now been in operation for three years and in the report which Mr. Peter Macfarlane submits (See Appendix No. 13) a comparison is instituted between the work accomplished in the several freezers during the past year, and the results of previous years. With the action, anticipated to be taken at any early date by the government of the province of Quebec, it is expected that the coming year (1903) will witness a great advance in the extension of the bait freezer system in that province.

New developments of the scheme have been, from time to time, urged, viz., the establishment of freezers of large capacity to meet the requirements of the deep-sea fishermen or 'bankers,' and the erection of fish driers capable of accommodating the

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fishermen in the various districts, and of enabling them to have their takes of fish dried independently of the fitful weather conditions on the Atlantic coast. There are several patent systems of fish-drying, and the matter is one that will require to be very carefully approached. As Professor Prince, Commissioner of Fisheries gives, in the exhaustive summary forming one of his special reports, a detailed account of the origin and growth of the present bait freezer scheme, it is not necessary to do more than make reference to the leading features which have been set forth in previous reports as follows :—

1. Formation of Fishermen's Bait Associations at the various fishing centres.
2. Incorporation of the associations formed under special Acts passed by the local legislatures of the maritime provinces.
3. Erection of bait freezers under the superintendence of skilled foremen provided by the department.
4. Audit of the accounts by one of the officials and the payment of 50 per cent of the cost by the department.
5. Practical explanation of the method of freezing and storing frozen fish for bait.
6. Provision of suitable forms for returns to be made to the department, showing daily the amount of fish received and issued and the temperatures maintained.\*
7. Payment of a bonus of \$5 per ton for bait frozen up to 20 tons, on the certificate of an inspector.

The co-operative cold storage work, undertaken by the department and the fishermen of the maritime provinces, for the purpose of providing a supply of bait during periods of scarcity has been continued during the past year with success.

The operations have been confined to the provinces of Nova Scotia and Prince Edward Island, under special Acts passed by the legislatures of these provinces. An Act has also been passed by the legislature of New Brunswick, permitting the free incorporation of Fishermen's Bait Associations. Arrangements were made to erect freezers at several points in this province, notably at Caraquet, but they were not carried out. The legislature of the province of Quebec did not deem it advisable to pass a special Act for the free incorporation of bait associations, and in consequence, it was impossible to organize associations to build bait freezers in this province. It is to be hoped during the coming session of this local legislature, that the benefits of this system will be recognized and provision made for its extension into Quebec.

The plan adopted for the aid of the fishermen in this important matter of providing a constant bait supply, has been devised on the principle of bearing equally with them the necessary expenditure for construction and equipment, overseeing as far as possible, that no mistakes are made in operating, but leaving the internal affairs and management solely under the control of a local board of directors.

Twenty freezers have been erected, of which less than half were operated during the past fishing season. The bait freezers constructed have a combined storage capacity of 645 tons of bait. Those operated this season had storage capacity of 210 tons and in all over 147 tons of bait were frozen, or, on an average, 70 per cent of their capacity was utilized. Inverness county, C.B., and Prince county, P.E.I., contain the largest

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number of freezers, viz., three each. Antigonish, Guysborough and Shelburne counties in Nova Scotia, contain two each, while one freezer has been erected in each of the counties of King's, P.E.I., Victoria, Cape Breton, Richmond, C.B., Halifax, Yarmouth and Digby in Nova Scotia, and Shediac, Westmorland, N.B.

It may be added that Mr. Peter Macfarlane, who was appointed to assist Mr. J. F. Fraser, C.E., in the bait cold storage work, has during the past year supervised the scheme and continued the duties performed by Mr. Fraser.

## THE FISHERIES STAFF.

The outside staff of fishery officers connected with this department during the last calendar year aggregates 680 men, including the crews of the fisheries protection fleet.

These officers were dispersed as follows :—

Ontario . . . . .	6
Quebec . . . . .	15
Nova Scotia . . . . .	63
New Brunswick . . . . .	33
Prince Edward Island . . . . .	5
Manitoba . . . . .	6
North-west Territories . . . . .	7
British Columbia . . . . .	10
Fishing guardians employed in 1902 . . . . .	285
Officers and crews of the fisheries protection fleet . . . . .	250
<hr/>	
Total . . . . .	680

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The following are inspectors of fisheries in the different provinces of the Dominion :

Name.	P. O. Address.	Extent of Jurisdiction.
Bertram, A. C. ....	North Sydney, N.S.	District No. 1.—Cape Breton Island.
Hockin, Robt. ....	Pictou, N.S. ....	District No. 2.—Cumberland, Colchester, Pictou, Antigonish, Guysboro', Halifax and Hants counties.
Ford, L. S. ....	Milton, N.S. ....	District No. 3.—Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's counties.
Pratt, J. H., capt. .	St. Andrews, N.B.	District No. 1.—The counties of Charlotte and St. John.
Chapman, Robt. A. .	Moncton, N.B. ....	District No. 2.—Restigouche, Gloucester, Northumberland, Kent, Westmoreland and Albert counties.
Harrison, H. E. ....	Maugerville, N.B.	District No. 3.—King's, Queen's, Sunbury, York, Carleton and Victoria counties.
Matheson, J. A. ....	Charlottetown ....	Prince Edward Island.
Wakeman, Wm., M.D.	Gaspé Basin, Que...	Lower St. Lawrence River and Gulf.
Lavoie, N., M.D. ....	L'Islet, Que ....	That portion of Quebec south of River St. Lawrence and north and east of and including county of Bellechasse.
Belliveau, A. H. ....	Ottawa. ....	Province of Quebec, north of River St. Lawrence and west from and including River Saguenay, and the portion south of River St. Lawrence, which lies west and south of the county of Bellechasse.
Hurley, J. M. ....	Belleville. ....	That portion of Ontario east of the western boundary line of the counties of Durham, Victoria and Haliburton, including Lake Scugog and the eastern boundary of Muskoka and Parry Sound districts.
Sheppard, O. B. ....	Toronto, Ont. ....	That part of the province of Ontario west of the eastern boundaries of the county of Ontario, and the districts of Muskoka and Parry Sound along the Mattawa and Ottawa Rivers, and northward along the north-eastern boundary line of said province to James Bay.
Duncan, A. G. ....	Marksville, Ont. ....	That portion of Ontario lying west and north of Lake Nipissing, the Rivers Mattawa and Ottawa and the north-east boundary line of the province to James Bay, embracing Nipissing, Algoma, Thunder Bay and Rainy River districts, Lake Superior and such portions of Lake Huron and Georgian Bay as lie adjacent or opposite to the part of Ontario above described.
Young, W. S. ....	Selkirk, Man. ....	Province of Manitoba.
Miller, E. W. ....	Qu'Appelle, N.W.T.	All the North-west Territories.
Stewart, Theophilus. .	Dawson City. ....	Yukon District.
Sword, C. B. ....	N. Westminster, B.C.	Province of British Columbia.

The following are the officers in charge of the Government Fish Hatcheries :

Name.	Rank.	P. O. Address.
Armstrong, Wm. ....	Officer in charge of Government Fish Hatchery . . .	Newcastle, Ont.
Parker, Wm. ....	"	Sandwich, Ont.
Walker, John. ....	"	Ottawa, Ont.
Finlayson, Alex. ....	"	Magog, Que.
Catellier, L. N. ....	"	Tadoussac, Que.
Lindsay, Robt. ....	"	Gaspé Basin.
Mowat, Alex. ....	"	Campbellton, N.B.
McCluskey, Chas. ....	"	Grand Falls, N.B.
Sheasgreen, Isaac. ....	"	South Esk, Miramichi, N.B.
Ogden, A. ....	"	Redford Basin, N.S.
"	"	Pictou N.S.
Campbell, A. G. ....	Lobster Hatchery . . .	N. E. Margaree.
Sword, C. B. ....	Fish Hatchery . . .	New Westminster, B.C.
Whitwell, Thos. ....	"	Skeena River.
Young, W. S. ....	"	Selkirk, Man.
Kemp, Ernest ....	Oyster Culture. . .	Ottawa, Ont.

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## FISHING SEASON OF 1902.

Herewith are appended the preliminary reports recently received from our different inspectors on the fishing operations for the season of 1902 just closed.

From a cursory glance at these brief reports, it is evident that the total yield for this year will fall short of the previous one, just published, by a considerable amount. The falling off of fifty per cent in the British Columbia salmon packing industry alone suffices to justify a decrease of nearly three million dollars in that province alone as compared with the extraordinary catch of 1901. This decline will be accentuated by the diminution of the herring and sardine industry in the Bay of Fundy districts.

In the other provinces it seems that one fluctuation will balance another and that the general result will be about an average yield.

A regrettable feature in the sea fisheries of the Atlantic coast is the repeated reference to the *dogfish* nuisance. Nearly every officer complains of it, and very often the falling off of the line fisheries is attributed to it. Some inspectors suggest that parties should be encouraged by bonus in the manufacturing of fertilizers with these shark fish so rich in phosphates. One of the intelligence bureau reporters describes an ingenious way adopted by the crew of some fishing schooners to rid their vicinity of a school of dogfish. See page 315.

## NOVA SCOTIA.

*Inspector A. C. Bertram of North Sydney, C. B.*, reports on the fisheries of Cape Breton, for the season of 1902, as follows :—

I am unable to state the actual increase or decrease in the leading branches of the fishery industry, as I have not yet received this year's statistics from the overseers. There is no doubt, however, that the returns will give an increased catch in cod, and a decrease in mackerel and herring, with salmon slightly under an average yield. I am only referring to the leading branches of the fishery industry in my district. The cod fishery has been good throughout the season, although interruptions have occurred in consequence of scarcity of bait in some localities. Stormy weather also has frequently prevented the fishermen from going out, particularly those who have no harbour advantages, but fish from the shore without protection.

The *mackerel* fishery was poor throughout the season. It appears that these fish, year by year are becoming scarcer. The New England purse-seine mackerel fishermen have also been short this season in their catch, which in 1900 was 82,217 barrels; in 1901, 66,537 barrels, and this present year only 41,728 barrels. It will be observed that there is a falling off year by year in the mackerel catch by the New England fleet. Of course the catch above referred to does not include fresh mackerel taken on the New England coast, but pickled mackerel landed in the markets and taken mostly in the waters surrounding the maritime provinces.

The *herring* fishery statistics will also show a decrease. While the spring and fall herring fishery has been up to the average, the mid-summer herring run is a complete failure. During the past decade these large fat-food fish have been getting scarcer, until the past two years they have failed to put in an appearance on our coast. The loss of this fishery is severely felt by our people. They have



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evidently sought other haunts. The lobster fishery was not up to the average this year. There is no doubt that overfishing is the cause of the decrease. More restriction is required, if this important industry is to be worth prosecuting in the future. Not being a migratory fish, overfishing will sooner or later deplete the coastal waters if permitted.

There has been a drain on some of the fishing districts of fishermen as a result of the development in Cape Breton, in mining, manufacturing and railway construction. The heaviest drain, however, has occurred on the Newfoundland fishery districts, as an immense number of people have come to Cape Breton during the season from the ancient colony and are employed in the coal mines.

The fishery regulations are yearly becoming more respected and observed.

*Inspector Robt. Hockin, of Pictou*, says that it is evident there will be a shortage with results of the seasons fishery operations as compared with previous years. The chief fishery product, the lobster fishery, will show a decrease of ten per cent. The cod, had-lock, hake and pollock fisheries will show a slight increase but there will be a considerable decrease in the mackerel fishery and the herring fishery has been probably only fifty per cent of the previous season. Shad, which are chiefly caught in the Bay of Fundy, have been taken in slightly increased quantities compared with last year. The results of the salmon fishery will be about the same as last season. The foregoing comprises about ninety per cent of the value of all of the fish that are taken in the district, and in the remaining minor fisheries of smelts, eels and oysters, there will not be any appreciable difference.

*Inspector L. S. Ford, of Milton, Queen's Co.*, says in the absence of the statistics, which are now being prepared, he can only estimate the fisheries in his district, during the year just ended. My opinion, based on observation, is that the yield of our fisheries as a whole will be satisfactory to all concerned, even better than the last year, which showed an increased catch at good prices.

The offshore fishery of the cod family has been at least an average one. The shore fishery would show far better were it not for that pest, the dogfish, which infest our coast in constantly increasing numbers. At times it becomes practically impossible to secure marketable fish. As this voracious little shark is rich in phosphates, it would seem possible to render them of commercial value by encouraging factories to prepare them into fertilizer for farming purposes. Mackerel and herring are fast leaving our shores. They turn up at times in a few places but cannot be depended on as a catch. Lobsters will show an average yield. This valuable fishery grows of more importance every year. There is an increased demand for this crustacean in outside markets, especially the shipping of live lobsters, which shows a never failing demand, and as the packers can only buy what the United States law forbid the importation of, there is a great temptation on the part of the packers to buy below the size limit here. It needs constant care on the part of your officers to prevent such violation of the law, and to protect the business for the benefit of those who, at times, seems the most anxious to destroy it. Arrangements have been made for a rigid inspection of the factories the coming season and it is to be hoped, fewer cases of violation of the law will be reported. Our river fisheries are in a fairly prosperous condition. The regulations for their protection seem to need revision.

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## NEW BRUNSWICK.

*Inspector J. H. Pratt, of St. John, N.B.*, states that his district will show a decrease in the value and catch for the season just closing. This is attributed to the schools of herring not being as plentiful as during the previous season. The herring played off shore, which the fishermen felt was due to the presence of silver hake and squid inshore of them. Dogfish are becoming a great source of annoyance to our fishermen, coming on the shores earlier each season, and remaining later. This season's returns for the catch of herring will show a large falling off, with a heavy drop in their value. Only half a catch was taken in the waters of Grand Manan, where big catches are always the rule during the season for herring, and the other districts will also show quite a decreased catch. The catch of *pollock* will show a decrease also, in comparison with last season, which was an exceptional year for that fish. The catch, will, however, compare favourably with other seasons, and good prices were received throughout the season. The enactment of the law prohibiting the killing of pollock by means of dynamite, and its enforcement among the fishermen using it at Grand Manan, has had the effect of doing away with this vile mode of fishing, much to the gratification of all honest fishermen. In the *lobster* fishery a diminution is reported from all quarters, due not only to lobsters being scarcer, but to fewer men fitting out for that fishery. It is becoming annually more apparent that the size limit in Charlotte county should be raised to that of St. John county, 10½ inches. This is the opinion of 90 per cent of the fishermen of the former county.

All line fish will show an average catch and good prices prevailed all through the year, and I have not heard any complaints from the fishermen on this score. The dogfish is now their principal bugbear, for often nothing will be found on their trawls but these fish. The clam beds at St. Andrews and Pocologan yielded the same satisfactory returns to those who pursued this industry.

*Inspector R. A. Chapman, of Moncton*, reports that the aggregate catch will be fully up to that of 1901, and would have been much larger only for the following reasons. *Salmon* fishery was greatly retarded and interfered with everywhere on our coasts by rough weather, entailing considerable loss, consequently in exposed places the nets were not in fishing order more than half the time; still, the quantity taken will be nearly an average one. Fly fishing was good. Spring *herring* were never more plentiful and immense quantities were taken for food, bait, &c., including larger numbers smoked than ever before. Fall herring on the Miscou and Caraquet banks struck in well, but heavy storms broke up nets, so that not so many were taken as last year. Notwithstanding the stormy weather prevailing more or less during the whole season, especially in the fall, codfish being exceedingly plentiful, the catch was a good one. More large boats and schooners are being employed in this fishery this year and less small boats. The take of *oysters* at Buctouche, Cocagne, is somewhat larger than usual, but less at Bay du Vin and other points on the Miramichi, where they are of inferior quality. This is largely due to boats from Caraquet, Shippegan, &c., which used to visit those places, now continuing at cod fishing in the fall, as it pays them better. Nearly double the quantity of hard shell clams (*Quohogs*) have been raked than ever before, and still the beds do not appear to be exhausted. Increased quantities of the ordinary clams were also taken for canning purposes.

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Owing to unfavourable weather in fall of 1901, *smelt* fishing opened poorly, but later on large quantities were caught and the aggregate will not fall much below that of last year. This season, although the ice had not formed Dec. 1, the weather turned cold on that day, after a long period of thaws, and better fishing than known for years on all the small rivers I have heard from, is reported. Many nets having caught \$20 to \$25 worth in a single tide.

The catch of *lobsters* shows an increase for the first time in many years, but the gain is almost entirely in the straits of Northumberland, where it is believed the fishermen are getting the benefit of the output from the Pictou Hatchery. With the new hatcheries being built at Shippegan and Shemogue we expect this fishery in a few years, to improve.

Other kinds of fish were about as usual, and as good prices prevailed throughout the season, this important industry has been fairly profitable to all concerned.

Inspector H. E. Harrison of *Maujerville*, who replaced the late Mr. Miles in the inland district of New Brunswick, reports that fishing in the St. John River district for the season of 1902 has been fairly satisfactory. While the *salmon* fishing on the lower St. John River and tributaries has not been quite up to the average, those fishing farther up the river seem to be well satisfied with the season's catch, one fisherman securing as many as one hundred fish, the smaller catch on the lower section of the river may be attributed to the unusual height of water all through the months of June and July. No doubt the benefit of this will be seen in the future, as salmon had an excellent chance to reach their spawning beds. The very wet season, and high water in the lakes and smaller streams, have also affected the trout fishing to some extent. There are many excellent trout lakes in this district, usually well patronized by American sportsmen. *Shad* were late in coming up river the present season, but the catch was very satisfactory. There was a good demand for these fresh, and salt shad now command a good figure. *Alewives* were taken in abundance, the home market for these fish is always limited, and the foreign was not so brisk the past season, as usual. The cause of this is ascribed to the volcanic eruptions in the West India Islands, where alewives are usually shipped in large quantities from this district.

#### PRINCE EDWARD ISLAND.

Inspector J. A. Matheson of *Charlottetown* states that the lobster pack has been beyond the most sanguine expectations and will be up to last season's catch. These crustacean were large and of better quality than usual.

*Cod* and *Hake* fishing was not followed with the usual vigour. Small quantities of mackerel were taken in July and August with nets, very little was done with hooks, except a few in October, which were of excellent quality. Herring was taken in about the usual quantities.

The catch of *Oysters* owing to the rough weather has not been as large as usual, fishermen complain of a scarcity, especially on shell beds. *Smelt* fishing yielded about an average quantity, prices ruled high, and were remunerative to the fisherman.

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## QUEBEC.

*Doctor Waksham, Officer in charge of the Gulf of St. Lawrence Division*, reports, that when the returns for 1902 are fully compiled it will be found, that the value of the catch will be slightly below that of 1901. This will be due to the continued falling off in the lobster pack, and a considerable decrease in the returns from the salmon, and fat herring fisheries. The cod fishery, which of course is the staple industry in the Gulf division, will be fully up to the average. The summer cod fishery was a most successful one, and had the same average catch continued through September and October we would have had one of the largest fisheries we have ever had, the weather however became rough early in September, and continued so all fall—so constantly so—that at most of the large fishing stations nothing whatever was done after the close of the summer fishing. On the North coast, along its whole extent from Point des Monts to Blancs Sablons, cod were abundant, and the catch was one of the best ever made. Only two Nova Scotia vessel visited the coast, they both did well. The Newfoundland fishing fleet, of about 300 vessels, did well—we may therefore expect a much larger fleet next season. Small-pox was unfortunately epidemic between Whale Head and Bradore, in June and July, and this to some extent interfered with the fishery made by residents, the disease however was of a mild type, isolation was fairly well enforced, and vaccination pretty generally accepted, so that by the end of July the quarantine was off, and all hands were at work again. Before it was known what the disease was men from two of the Newfoundland vessels contracted it by communication with the shore, but the moment it was realized that the disease was small-pox, the vessels were ordered to keep from communication with the shore, and from the infected vessels. No new cases occurred in the fishing fleet. I may say that the orders issued as to isolation, and disinfection were strictly observed, and closely followed, the result naturally was that the epidemic was crushed at once. The fishing community, on shore, and on the vessels, in their loyal and intelligent observance of the orders issued to them concerning the means necessary to be taken to stamp out the disease have set a remarkable example to other communities in the province, supposed to be much more advanced.

The catch of *salmon* shows a considerable falling off all round the coast. This was due I fancy to the fact that we had a very mild winter, and an early spring, and the salmon consequently ran in early and all at once, thus escaping the nets. The catch in 1901 was a heavy one, and we seldom have two good years in succession. Summer herring were scarce and the catch was small, in some places it was found, that by sinking the gill-nets a good way below the surface fair hauls were made, showing that the fish were there, but for some reason not schooling at the surface as they usually do. The catch of *mackerel* at the Magdalen Islands was good, and as there was a demand for the fish the price was high.

The *lobster* pack will show a considerable falling off, especially on such parts of the coast as are exposed to easterly winds. Two heavy easterly gales in June played havoc with the traps in all exposed places, so much so that packers and fishermen had not the material to fully replace them. This very general loss led me to advise a two weeks extension. Mr. Menier has established a second elaborate cannery at Goose Point Anticosti. He, however, suffered more severely than any one else from the rough weather, and his pack was consequently small in proportion.

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Several very extensive lumbering establishments have recently opened in the division, notably that at Seven Islands, and the mills of the York Lumber, and the Calhoun companies at Gaspé, and the Messrs. Lovel, at Grand Valley, each of these establishments employs a large number of hands, and the wages paid in the lumber camps are greatly in advance of any hitherto obtained for winter work on the coast. All this with the fact of a good fishery, and a fair harvest has caused *good times* in the Gulf division.

*Inspector N. Lavoie, of l'Islet*, reports on the fishing operations in his division during the season of 1902 as follows :

Around the islands facing the counties of Montmagny and Bellechasse, eel fishing nearly failed, as the statistics will show a decrease of about 12,000 lbs; from Point Lévis to St. Valier, fishing may be said to have been good, the more so, if we consider the remunerative prices realized on fish. However, Berthier and Montmagny show a falling off of more than one half in the catch of eels. Sturgeon fishing will also show a slight decline, but, on the whole, the fishermen are apparently satisfied, when they compare their catch with that of other localities farther down. This satisfactory result is ascribed to the gradual improvement of their fishing gear. From St. Valier to l'Islet, fishing was almost nothing. There will therefore be a large decrease in the yield of sturgeon and eels, while mixed fish will show an average yield. On that section of the coast lying between l'Islet and Sandy Bay, the season was one of the most unproductive experienced for many years past. Everything seemed to be in the way of fishermen; frequent and long storms, injuries to fishing gear, &c. The only places where fishing may be said to have been comparatively remunerative, was at Green island, Cacouna and St. André, and this may be accounted for by the fact that this portion of the coast is somewhat sheltered. Herring fishing will show a decrease of over one million pounds. The sardine fishery was also an utter failure, while sturgeon and shad fishing show a slight increase. The salmon and trout fisheries are steadily declining in this section. No reliable accounts could be had of the number of speckled trout caught in the inland lakes, but I believe that it must have been satisfactory. The catch of porpoises was very poor, only 33 being killed.

From Sandy Bay to River Claude, the lowest post in my division, fishing appears to have been most successful, so much so, that residents neglected their farms in order to devote most of their time to fishing pursuits. The catch of fish was abundant; prices ruled high, the number of lumber shanties has increased; there is remunerative employment for everyone who chooses to work, and abundance seems to reign everywhere. The statistics will show a material increase in the catch of herring, while that of cod proved less successful. There may be a falling off of about one-half, due, not to a paucity of fish, but to the difficulty which fishermen too often experienced of being unable to go out fishing on account of stormy weather. Whenever it was possible to fish, the catch was large. Prices ruled high: \$4.50 to \$5.00 a quintal being the usual quotations. Salmon and trout fishing was good. In 1901, the yield was almost double that of 1900, and this year, it is again on the increase. It is reported that a simple sportsman killed 100 salmon with the fly, in St. Ann river. I also ascertained that fly fishing had been very good in Métis and Matane rivers. Cape Chatte river is not leaser, neither is there any guardian on it. For these reasons, I am inclined to believe that a good deal of poaching must be carried on there. Owing to remunerative prices, the halibut fishery seems to acquire greater importance. The statistics will show some 40,000 pounds against 25,000 last year.

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*Inspector A. H. Belliveau*, who has charge of the inland division of the province of Quebec, reports that from his few visits to the principal fishing localities, the catch of fish for the season of 1902 will likely be still less than the previous one. Not only are the fish scarcer but they are also steadily diminishing in size. This may be safely ascribed to over-netting in the past, as well as to the indiscriminate use of small meshed gear capturing immature fish. In fact, most of the yield now consists of inferior or coarser species of fish. A noticeable feature is the almost complete disappearance of shad from its former haunts in the St. Lawrence and its tributaries. In the lower part of this district, the catch of herring and sardine herring will show a great falling off as compared with that of previous years. The prohibition of all netting implements in the beautiful lakes and streams of the Eastern Townships which was adopted in the beginning of the year has proved very satisfactory to the residents of Sherbrooke and vicinity, who are anxious to preserve their game fish for summer tourists who congregate there annually in large numbers. Some sportsmen are even urging more stringent restrictions by setting apart certain lakes entirely for the natural propagation of fish. It is to be hoped that the netting permits, tolerated during the previous summer, will never again be renewed as the total depletion of these waters would then be only a question of time. I have been informed that tons of fish were brought to market from districts where netting was carried on during the season of 1901. It is not sufficient to have good regulations enacted but the proper means for their observation should be taken by the authorities. It is questionable whether provincial guardians will exercise their utmost vigilance to prevent the possessors of nets from becoming poachers. There should be no netting allowed during the months of July and August in nearly all my district. During the summer the principal fishing centres were visited by the Provincial Superintendent of Fisheries and myself and fishermen, when questioned on this subject agreed almost unanimously that it would be to their own interests if such a regulation was adopted and enforced, as most of them are not prepared to bring fish to market in good condition during these months. During my inspections, this summer, I have had to report several violations of the saw-dust regulations, especially in counties of Berthier, Montmorency and Lake St. John district. In fact I was compelled to impose a fine on six mill owners for allowing their mill refuse to escape into the stream which furnished them with motor power.

During last summer a good substantial fishway of the Hockin improved model was erected at the Chambly dam, Richelieu River, by the Montreal Light, Heat and Power Company (Limited). Unfortunately a large break in this expensive dam recently damaged the lower part of the said fish-pass before it could be properly tested. The company will, no doubt, restore it so soon as the other repairs are completed in time for the spring-spawning fish to ascend.

Most of the remarks in my annual report (page 151) also apply for the season of 1902.

## ONTARIO.

*Inspector J. M. Hurley, of Belleville*, reports that sporting fish were very plentiful this year, especially so in the Bay of Quinté, Trent and other large rivers. Bass, trout and maskinongé were extremely abundant in the bay and lakes and on the rivers inland, where the coarse heads, viz., pike, pickerel, bull-fish, suckers, &c., do not go. On Trent and Moira rivers, pike, pickerel, &c., are numerous at the mouth and a few miles up the rivers

until stopped by the dams. There are neither bass nor maskinongé there, but up the rivers the sporting fish are plentiful.

I think fishways would be disastrous to sporting fish in these rivers, as they would allow rough fish to go up and they would infest the spawning grounds of the game fish. The catch of fish was good this fall; indeed, it is generally said that it never was better. No nets were allowed in the waters until September 15. Rough fish were plentiful, but whitefish and herring were scarce. Very few were taken when the close season came on. The ice formed in the bay on December 5, which stopped operations for the year.

There has been a great deal of poaching and illegal fishing and shipping of fish on the Lake Ontario side of Prince Edward county and around the islands between the lake and Bay of Quinté. United States vessels and tugs from Cape Vincent run along that coast and gather up the fish. There is not enough supervision in the district, as one overseer has over 200 miles to look after. There should be a steam yacht for that section to enable the local officers to do their work.

The Quinté bass pond at Point Ann is still doing good work breeding fish under natural conditions and replenishing the bay and surrounding waters, as the quantity of bass caught testifies. Parent bass were put in the pond from April 22 to May 4. They commenced to spawn on May 13 and hatched May 27 to June 1. Upon September 1 some of the young bass were four inches long.

There are several lakes around Sharbot Lake which are very suitable for bass or trout. They are well protected from rough fish and the waters are deep and clear. Railway facilities are good, which is a great factor in depositing fish successfully.

*Inspector O. B. Sheppard, of Toronto*, reports that the catch of fish in his division this year has been fairly satisfactory. The catch of trout was considerably above the average, whitefish slightly below the average, and herring on the increase both in number and size. Sturgeon are gradually decreasing both in size and number. Yellow pickerel have been an average catch, while that of blue pickerel has been slightly above the average. The rod and line fisheries show a considerable falling off; while the coarse and smaller fish, such as bullheads, perch, etc., are as plentiful as usual. The law regarding the close season for the various kinds of fish is not being enforced as it should be by the overseers. Many of them seem utterly oblivious to their duties, and make no attempt whatever to see the law carried out.

The carp are increasing very rapidly in this division, both in the inland and international waters, and will eventually, in my opinion, do an incalculable amount of damage to our fisheries, and I am afraid they will also destroy our duck shooting by destroying their food, viz., the wild rice, which they are doing in all waters where they are found. I would advise allowing them (the carp) to be taken at all seasons and by any means, and if necessary pay a bounty for their destruction. The carp, to my mind, is the most dangerous element we have at present to contend with, in our fresh water fisheries, and I cannot impress too strongly my views as to taking drastic measures to stop their rapid increase. This matter, in my opinion, should not delay.

*Inspector A. G. Duncan, of Marksville*, states it is impossible for him to secure reliable information respecting the yield of fish in his district. He is of opinion that there are many more nets used than licensed for, that seines are often substituted for gill-nets

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and that the mesh of the pound net pots should not be less than four inches, at least one side of it. Every licensed implement should be so marked on a floating buoy to enable the different officers to detect at once the illegal apparatus. If the quantity of fish is kept up it is with the increased use of illegal nets. Mr. Duncan recommends that certain parts of the great lakes should be protected by prohibiting netting of any kind therein for a number of years. He also recommends that a fish culture hatchery be established at St. Joseph Island.

## MANITOBA.

*Inspector W. S. Young, of Selkirk, Man.*, says that with the exception of one lake, the quantity of fish caught throughout the year 1902 for this province will be in advance of the previous season.

The catch of *Whitefish* on Lake Winnipeg during the commercial season will break all records. These valuable fish were more plentiful than they had been for years. In fact, fish of all kinds have been abundant throughout the season, except perhaps sturgeon, which will show a falling off. These valuable fish seem to be getting scarcer every year. The season of 1902 will be by far the most satisfactory one both to the fishermen and companies engaged in the fishery industry. Harmony prevailed everywhere. There were no disputes, and the regulations were, on the whole, fairly well respected.

Lakes Manitoba, St. Martin, Shoal du Bonnet, Rock, Pelican, White Water Oak, Clear Water, and also the Red, Assiniboine and Winnipeg Rivers have all had a very successful and profitable year. The catch will be ahead of the preceding year.

Lake Winnipegosis will show a falling off as compared with the previous catch. The run of fish during the summer season was very poor, so much so, that the fisherman did not do well. Since the fall fisheries started I understand that the run of fish have picked up somewhat, but not as plentifully as in former years. If this lake had held up its record for 1901, this year, along with the rest of the lakes in our province, the Manitoba fisheries would have been very considerable; as it is, I expect this year will not more than hold its own with the preceding year.

*Inspector E. W. Miller, of Fort Qu'Appelle*, says satisfactory reports as to the condition of the fisheries have been received from all overseers and guardians during the current year. The rainfall in spring and early summer was extremely heavy; the rivers were in full flood for a lengthy period, and most of the lakes have continued the gain in volume and improvement in condition of their waters noticed last year. The high stage of water gave free passage for fish to and from many bodies of water which have been isolated for several years, and fish are again being found in small lakes for some time devoid of them. Spawning fish were noticed in larger numbers than usual on their several grounds, and from all quarters fish are reported both plentiful and in prime condition. A much larger number of licenses was issued this year, due not so much to a larger amount of fishing being done, as to closer supervision and curtailment of the free permit privileges. In general, the regulations are well adhered to by the licensed fishermen, and the condition of the streams this spring did not lend itself to the illegal trapping of fish complained of in seasons of low water.

Cedar and Moose lakes were opened this summer for the sturgeon fishery but the catch was disappointing, the fishermen attributing their ill luck to the very high water,



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the Saskatchewan reaching the highest level known for a great many years. The catch through the ice however was good. The great demand for sturgeon caused the fishery to be carried on in the waters north of Lake Winnipeg at points more remote than hitherto touched by men fishing for export. The fish here were plentiful and large. The alterations in the close season has not yet led to a revival of the export trade in whitefish formerly done in the Prince Albert district. In the Cumberland district there are symptoms of a falling off in the muskrat hunt which will lead to an increased resort to the fishery this winter. The whitefish lakes in the Edmonton district are now in excellent conditions, the benefits of close supervisions being nowhere more apparent. There is a very large increase in the amount of fishing done by angling and the quantity of pike, pickerel, &c., taken in this way is very great. At one lake the guardian reports an average of fifty anglers a day for a period of nearly six weeks, who caught from ten to twenty fish each. The settlers of foreign extraction are specially active in availing themselves of this privilege a fish diet being much appreciated by them. An experimental planting of black bass has been made at Buffalo Lake, Alta, the outcome of which will be watched with much interest as there are many similar bodies of water where the introduction of this game fish would be eagerly welcomed.

## BRITISH COLUMBIA.

*Inspector C. B. Sword of New Westminster, B.C.*, says that the later date to which fishing is now prosecuted makes it more difficult than in former years to get exact statistics of the fisheries in time for the preliminary report required by the Department, and some of the figures now given, may be, though not to any great extent, modified when the official returns are received.

The canned *salmon* pack of 1902, showing a great falling off from that of 1901, amounts to 626,000 cases of all kinds, as against 1,247,212 cases in 1901. This decrease is more than accounted for by the difference in the Fraser river sockeye pack, 293,477 cases in 1902 against 966,525 cases in 1901. So far as the northern fisheries are concerned, they were better than in 1901. The Puget Sound sockeye pack being practically all Fraser river fish shows an even greater proportionate falling off, 322,566 cases in 1902 against 1,105,096 cases the previous year. While 1902 is so far below 1901, it yet compares favourably with 1898, the corresponding year in the quadrennial cycle (to which for some mysterious reason, the periodical runs of salmon seem to be subject) the pack in 1898 totalling only 492,551 cases. The shipments of dry salted salmon for the Japanese market will show an increase for the last year of nearly 50 per cent.

The *sturgeon* fishery may be looked upon as practically extinct commercially. The total returns for this year will not probably be more than one half of the small catch of 60,000 lbs. last year.

The *halibut* fishery will yield a very gratifying increase, the largest company interested in the business reporting that their shipments this year have exceeded by over 50 per cent the previous ones.

As the principal market for the catch of *herring* has been the bait required for the halibut fishery, the development in the latter will show a corresponding increase in their catch.

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## CONCLUSION.

The importance of the interests administered by the Department so far as relates to our marine and inland fisheries renders it imperative that the fishery laws and regulations should be wisely framed, and should be carried out in a firm, though considerate manner. The fishing industries are too vast and vital to the welfare of the country to permit of ineffective, one-sided and unwise measures, and it must be admitted that the fishing population do not always fully realize the necessity of preservative measures, and do not always render that support to the Department and its officers, which would ultimately prove of infinite benefit to the fisheries. While these observations apply to practically all our fisheries, various as they are, they apply especially to our lobster, oyster and salmon fisheries.

I have the honour to be, sir,

Your obedient servant,

F. GOURDEAU, Lt.-Col.,  
*Deputy Minister of Marine and Fisheries.*



SPECIAL

APPENDED REPORTS

BY

PROFESSOR E. E. PRINCE

*Dominion Commissioner of Fisheries*

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1. THE BAIT-FREEZER SYSTEM IN CANADA.
  2. THE FISH-WAY PROBLEM.
  3. THE CULTURE OF SHAD.
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1902



## SPECIAL APPENDED REPORTS.

### I

#### THE BAIT FREEZER SYSTEM IN CANADA.

BY PROFESSOR EDWARD E. PRINCE, COMMISSIONER AND GENERAL INSPECTOR OF FISHERIES FOR CANADA.

Of the many efforts made by the Dominion Government to foster and promote the sea-fisheries the most recent, and in many respects the most remarkable, is that of providing, under federal auspices, facilities for the storage and preservation of bait in refrigerators. The subject of cold storage for bait, and of fishery products generally, has for over twenty years engaged the attention of the Department of Marine and Fisheries. Indeed it is exactly twenty years since the Imperial Government granted to the Government of Canada its highest award, a gold medal, for the excellent features of two large refrigerators exhibited at the famous International Fisheries Exhibition held in London in 1883. These refrigerators constructed under the direction of the Department of Marine and Fisheries were designed primarily to preserve fresh fish, as was also the refrigerator shown by Mr. C. W. Gauthier of Windsor, Ont., and that exhibited by Messrs. Withrow and Wilcox, of Toronto; each of these exhibits likewise gaining the high honour of a gold medal, the premier award in each class.

The phase of the matter, which was regarded as most weighty by the Department of Marine and Fisheries was that relating to the question of bait supply for the fishermen. Season after season the lack of bait not merely hampered, but absolutely stopped fishing operations at the most important part of the season. 'The offshore fisheries are at a stand-still because there is no bait,' the late Mr. Thomas Robertson, M. P.P., informed the present writer, in a letter referring to the fishing industries of western Nova Scotia. In 1895 the complaint was general along the northern shores of our Atlantic waters, that bait was scarce. The valuable capelin no longer came in, in their former vast schools, the sand-launce has been fished out, and the herring formed practically the only reliable bait: but, one well known authority on the Percé coast affirmed that 'after large quantities have appeared in spring, the herring leave the shore and only erratically appear again later in the season.' 'Cannot the Government build bait freezers' the same writer asked 'for bait is more vital than breakwaters, wharfs, and the like, without bait, the fishery ends.' Three years ago the northern Cape Breton fishermen lost fully one quarter of the fishing season: because a supply of bait was not available, and this want of bait just occurred, as it generally does, precisely when the weather was the finest for carrying on fishing. The fleet of 'bankers' that is the fine schooners which for about five months each year fish upon the North Atlantic banks in the deep-sea, have frequently lost four to six weeks through shortage of bait, and the inshore fishermen are estimated to commonly lose \$20 to \$50 each, per season, from failure in the bait supply. It was felt that an abundant and reliable supply could be made available if proper means for its preservation could be provided, and the United States Government realized this many years ago when it devised a system of bait barges for conveying frozen herring from Newfoundland to American fishing ports.

The principal Canadian fishing firms, especially those operating on the more northerly shores along the Gulf of St. Lawrence, realised the necessity of a steady bait supply. The success of the great cod fishery depends upon a reliable supply; but while the herring abound in incredible quantities along the shores referred to, during the spring

season they begin to fail about mid-summer, and cannot be relied upon in the fall. Such firms as Messrs. Robin, Collas & Co., Messrs. Boutellier & Co., Messrs. Holliday & Sons established bait freezers in order to ensure a full and steady supply, when most required, after the spring season. Some of these firms had as many as five or six freezers at different points, and stored in them halibut, haddock, salmon, trout, &c. in addition to bait. The Department appears to have regarded this enterprise as one properly belonging to the fishing firms and fishermen: but that its vital importance was recognized is seen from the fact that in the Fisheries Report for 1891, plans and specifications of bait refrigerators were published for the information of all parties interested. Under the Department's directions, Messrs. Denison & King, of Toronto, completed detailed plans, published in the form of lithographed plates (seven in number), and a special bulletin was issued in 1891 in order to stimulate fishermen's societies, fish-merchants, and capitalists, to embark in this great enterprise, and provide the means for supplying the annual pressing demands for bait. It may be that the action of Newfoundland in prohibiting the export of bait had stirred up interest in the matter: but the "Bulletin No. 1. Aids to the Solution of the Bait Question," (dated November, 1891) concisely and plainly set forth to the fisherman and all interested the facility with which measures could be adopted for preventing a recurrence of the too-frequent bait famine. The bulletin pointed out that "Small freezers and cold stores can be put up in every fishing hamlet, and actual experiment has demonstrated that the frozen herring wrapped in an ordinary canvas bag and kept under the bottom boards of a fishing boat out of the sun have remained in the boat frozen for a period of twenty-four hours and at the end of that time have had to be put in the sun to thaw out before being cut up to put on the hooks.

As to the quantities, prices, &c., so far as the coastal fishery by boats is concerned, a few fishermen joining together can put up by their own labour and at small cost, a small building for use as a freezer and cold store and could by saving their own surplusage of spring herring ensure themselves a supply of bait whenever other seasonal baits were short, and for the supply of the deep sea fishermen larger buildings can be erected and a large supply of herring put up at certain places where they are known to be plentiful in the spring and where they could be readily put into the freezer at a cost of from fifty to seventy-five cents per barrel. And as these herring would readily command from three to four dollars per barrel when bait was scarce, the margin for cost of handling and freezing and for profit is a fair one and should attract capital.

For many years past this system of freezing and cold storage has been in successful use on the Great Lakes and at the present time nearly the whole catch of these waters amounting in the aggregate to five or six thousand tons is handled in this way and the dealers are thus enabled to regulate the supply according to the demand.

Five or six years later, one of the most widely known authorities on fishery matters in the Maritime Provinces, Dr. Arthur Kendall, M.P., at that time a member of the Nova Scotia Legislature, seriously took up the matter of cold storage as applied to bait and fish products. After devoting much time and attention to the subject, and conducting many practical tests, Dr. Kendall, personally superintended a shipment of boiled lobster from Halifax, N.S., to London, and he demonstrated that if a temperature of from 28° to 30° F. was maintained, there was no difficulty in keeping such lobsters in perfect condition for a period of about a month. On various occasions when discussing with Dr. Kendall the effects of a lower and higher temperature (than from 28° to 30° F.) which experiments showed to be unfavourable to the perfect preservation of the lobster for food purposes, I expressed the view that too low a temperature would break up and disorganize the tissues, muscular, hepatic, fatty and hæmal, while under a higher temperature, above 30° the abundant hæmal fluid contained in sinuses under the carapace, the fatty matters, and amyloid substances, largely glycogenous in character would quickly develop a rancid and offensive odour. This unpleasant odour arises while yet the massive muscular bundles and ribbons are in a perfectly fresh condition. Dr. Kendall's results appear to bear out both my views. The further inquiries which Dr. Kendall was authorized, towards the end of May, 1899, to make, bore more directly upon the bait question. The instructions issued by Sir Louis Davies involved a full inquiry into the refrigerator methods actually in use, and in collecting information Dr. Kendall was

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authorized to visit all the fish-freezers of importance from the Atlantic coast to Winnipeg. Near Winnipeg, viz, at the small town of Selkirk, the largest freezers in the Dominion are operated. This system of freezers, including those on lake Winnipeg itself have a capacity of about 3,000 tons, and are filled as a rule with ample quantities of lake whitefish, sturgeon, &c. This valuable inquiry was practically the sequel to the active measures adopted by the Nova Scotia House of Assembly, which during its session of 1899 appointed a committee of eleven or twelve of its members to examine into the fish-freezer question. This committee, which largely owed its origin to the energetic efforts of Dr. Kendall, reported in due course to the Speaker of the Assembly, and expressed the view that six or eight large freezers costing about \$2,000 each, and about fifty small freezers costing \$500 to \$1000 each would suffice for the needs of Nova Scotia. Dr. Kendall, it may be pointed out, strongly advocated the view that while provision for supplying frozen bait was most urgent, yet the scheme later on would require to include cold storage for fish products generally. The late Mr. Thomas Robertson, M.P.P., took an active part in the movement, especially in its bearing on the fisheries of western Nova Scotia, while Mr. H. M. Nickerson, the editor of the *Coast-Guard*, and perhaps the best living authority upon our Atlantic fisheries generally emphasized the national importance of the bait-freezer question. The official view in Ottawa had been, as already pointed out, that a Government scheme would conflict and compete with the freezers carried on by private enterprise; but M. Nickerson, writing from Clark's Harbour, in March 1899, said 'I am strongly of opinion that the Federal Government should give chief assistance.' Soon after, the Federal Government did assume a more responsible relation to the scheme. Sir Louis Davies, the Hon. Sidney Fisher with Professor J. W. Robertson held a preliminary conference in Ottawa, and the sea-coast bait-freezer project rapidly took tangible shape. Sir Louis Davies asked me to prepare a report and informed me that he was disposed to urge the Government to give aid, if a well-matured and workable scheme were placed before him. While it was felt that the people vitally interested should be required to do their part, Sir Louis Davies had come to the conclusion that the Government could justifiably supplement the local efforts in a substantial way. Accordingly in the appropriations passed by the House of Commons in the Session of 1899-1900, an amount of \$25,000 appeared for the first time to enable the Marine and Fisheries Department to carry out a comprehensive bait-freezer scheme. A similar vote has been sanctioned during each of the two succeeding sessions of Parliament. Numerous meetings were held in the fall of 1900, and the following winter, at important fishing centres in the maritime provinces; and Dr. Kendall, with the assistance of Professor Robertson, enunciated the details of the scheme. It was found necessary to enlist the assistance of a trained expert specially qualified to draw up plans and specifications of the freezers that were shortly to be erected, and the services of Mr. J. F. Fraser, C.E., of the Engineers' Branch, Marine and Fisheries Department, Ottawa, were sanctioned by the minister.

The basis of these plans was furnished by Professor Robertson, to whom in the initial stages the scheme owed more than can be estimated. Thereafter, all the work of preparing plans and details of construction, as well as the personal superintendence of all the operations, fell upon Mr. Fraser, who for over two years was practically superintendent of the scheme, as Dr. Kendall ceased to be officially associated with it in October 1900. Mr. Fraser's reports were transmitted to me as Commissioner of Fisheries, and I continued to follow the details of the work, constantly and closely. Further assistance was soon found to be necessary on the coast, and Mr. Peter Macfarlane, an experienced officer of the Department of Agriculture, was authorized to aid Mr. Fraser in certain branches of the scheme, and since Mr. Fraser's resumption of his former duties in the Engineer's Branch, six or eight months ago, Mr. Macfarlane's services have been continued. My own experience in regard to the problem of fishery bait supplies dates back nearly twenty years, when a serious crisis, arising from scarcity of bait, arose in the 'long line' fisheries of Scotland. It was in 1888 that I was appointed secretary of a special commission on the subject by the Most Noble the Marquis of Lothian, H. M. Secretary of State for Scotland, on the recommendation of the Right Hon. Lord Tweedmouth, chairman of the commission. The information I then gained prompted me (while in numerous official memos indicating to the Minister of Marine and Fisheries the vast boon that a system of bait cold storage would be to our Atlantic fishermen) to point out some of



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the difficulties and probable dangers besetting the scheme. I did so in order that the minister might not be unaware of some of the obstacles that the scheme would certainly encounter, and it has proved to be the case that every point I then set forth has been exemplified in the initial stages of the bait-freezer system in Canada. I pointed out the important fact that there existed on the Atlantic coast, and in various parts of the Dominion, between seventy and eighty freezers, fitted up and carried on by leading fish merchants. Thus for a long period Messrs. Robin, Collas & Co., Messrs. Boutellier & Co., Messrs. Fruing & Co., along the Gaspé and Bonaventure shores, had operated freezers for bait purposes as well as for storing fish for market. Messrs. Holliday Bros., in Quebec; Messrs. A. & R. Loggie and Messrs. W. S. Loggie & Co., in New Brunswick and Messrs. Abbott, Margaree Harbour, Cape Breton carried on capacious refrigerators, largely for salmon (as many as seven or eight thousand salmon per season being stored in Mr. Abbott's freezer); but the freezers of the Messrs. A. & N. Whitman of Canso, holding nearly 300 tons; of Mr. A. Wilson, Canso, 60 or 70 tons; of Messrs. Fader & Co., Halifax, 250 tons; Messrs. Desbarres, Guysboro, 100 tons; Messrs. A. & R. Loggie, Chatham, N.B., 300 tons; with others such as those of Messrs. R. T. Matthews, Queensport, N.S.; Messrs. Wilson, Halifax; Col. Clark, of Dartmouth, indicate how important the storage of bait had become in Nova Scotia, for most of these freezers annually contained large quantities of frozen bait. In New Brunswick, Messrs. A. & R. Loggie have operated seven or eight freezers ranging from 400 tons capacity at Loggieville, to 100 tons at Dalhousie, and 20 tons at Richibucto; while Messrs. W. S. Loggie & Co., had six freezers, the largest, 150 tons at Shippegan, another 120 tons at Chatham, N. B., and others at 40 or 50 tons elsewhere. Mr. Peter Hamilton, of Charlo, (65 tons) Mr. James Reid, M. P. (45 tons), at the same place, may be mentioned amongst the remaining ten or twelve freezers or less extensive capacity. There are, it is estimated, at least thirty freezers in New Brunswick, one of them at Grand Manan, operated by the Quoddy Fish Co., is calculated to contain over one million herring. The Ontario freezers are practically solely for markets fishes, and of those of larger capacity, may be mentioned that at Wiarton, holding 300 tons, and that at Collingwood holding 220 tons, both owned by the U. S. Booth Packing Company. They have one also at Port Arthur, of 75 tons capacity, while Mr. Brimson operates one there of 50 tons capacity. In Manitoba, probably the most remarkable and capacious freezers on the continent exist. At Selkirk the Dominion Fish Company own five freezers ranging in capacity from 700 tons to 150 tons, the total capacity being over 1,600 tons, while on Lake Winnipeg the same Company operate at Poney, Reindeer, Swampy and Horse Islands, freezers of 150 to 100 and 75 tons capacity. Messrs. Ewing and Fryer have freezers at Brokenhead River, Lake Winnipeg 60 tons, Berens River 25 tons, and Rabbit Point 25 tons; Mr. Peter MacArthur runs one at Westbourne holding 100 tons, and there are others in Winnipeg (15 tons), and in Winnipegosis (15 tons). Of the British Columbia freezers little need be said, as they are practically solely for storing Salmon and Sturgeon. Messrs. Costello & Co. operate one holding 24 tons, the Cleeve Co's freezer is 15 tons capacity, and there are 3 others of 5 tons each. This statement does not include all the freezers in each of the provinces referred to; but those specified are typical examples, and every season will no doubt add to their number, and show a tendency to provide increased capacity. The existence of these private freezers, many of them largely devoted to bait storage, was recognized by the Department as having an important bearing on the scheme. Yet some of the firms who had large vested interests of this nature like the Messrs. A. N. Whitman & Co. were the first to urge the furtherance of Government-aided freezers as a benefit to the vast body of fishermen, a rare example of generous disinterestedness. When Sir Louis Davies asked me to report upon the question, as already stated, I directed his attention to certain difficulties that would require to be recognized and met. I mention here seven of them:—

- (1.) Government bait-freezers would compete with freezers carried on by private enterprise.
- (2.) The difficulty of selecting central locations, giving all fishermen a fair chance to benefit by the freezers.
- (3.) Provision for accommodation ample enough to exclude no fisherman's quota of bait.

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(4.) Poverty of fishermen in some localities might prevent meeting the conditions for establishment of freezers.

(5.) Each freezer to be successful would require a good business man at the head, rendering a staff of authorized officials necessary to avoid bad management and loss.

(6.) Abuses might arise, such as sale of government preserved bait to foreign fishermen, thus benefitting them rather than our own fishermen.

(7.) Possible complaint on the Great Lakes and Pacific coast, if freezers were provided only for Atlantic fishermen.

My large experience in Scotland showed that Fishermen's Bait Associations were frequently a failure, and a scheme designed to benefit all, very often fell into the hands of private individuals. In rare instances the private firm continued to afford supplies of bait on advantageous terms as for example the Messrs. W. C. Johnstone, of Montrose, who control the mussel bait supply in that Scottish locality. The lack of cheap bait has been a sore grievance in the British islands; but the fishermen's societies in very few instances were successful in removing the difficulty, frequently through lack of good management and wise co operation. That the bait question was serious is plain from the fact that over 20,000 tons of mussels were annually required for the Scottish line fishermen. These mussels cost the fishermen, it is estimated, not less than \$100,000 per annum. In one district in the North of England, each fisherman used on an average  $2\frac{1}{2}$  tons of bait costing \$9 per ton, or nearly \$23 per annum, while through lack of bait, a loss of say \$15 was to be added, making an annual drain on the fishermen between the Tyne and the Tweed of about \$23,000, the fishermen numbering about 600. This loss, said one authority, could have been reduced by \$7,000 or \$8,000 at least, per annum, had a properly managed bait association existed. A similar drainage has long placed the Canadian fishermen at a disadvantage; but it was clear that unless a well-devised scheme were inaugurated the failure and disappointment which followed the Fishermen's Bait Associations in Britain, would likewise attend a similar system in the Dominion. The lack of bait is a danger so continually threatening the fishermen engaged in the capture of cod, halibut and other fishes, that any feasible method of overcoming the risk of scarcity is a matter worthy of the most serious consideration. Mr. Thomas F. Knight in his account of the fisheries of Nova Scotia (published in 1866) made special reference to this subject because, as he remarks:—'At the present season the fishermen on the shores of the county of Halifax (the largest fishing county in the province) are loudly complaining of the scarcity of bait. . . fresh fish are indispensable as bait for the shore fisheries, and when herring and mackerel become scarce, the want of it is seriously felt in pursuing the cod fishery.' Mr. Knight, in the same connection, makes an interesting reference to the high price paid for bait in certain seasons especially by the French, and quotes a statement that in 1856 the French paid 26 shillings to 27 shillings (\$6.25 to \$6.50) a barrel to the Newfoundlanders for herrings for bait purposes, while the ordinary price for herrings for export was at the time only 6 shillings and a penny per barrel (about \$1.25).

It is not necessary to refer to specific instances of this scarcity of bait as affecting fatally the pursuit of the fisheries. Fishery reports in all countries, and our own Canadian reports are no exception, are full of references to this point of supreme importance in regard to the fishing industries. To take at random an example, I find that several of the inspectors in Nova Scotia reported in 1889 a shortage especially in the catch of cod, due to the scarcity of bait. 'There were no herring on the coast when the deep sea fishing began,' one officer reported, 'so that the fishermen were unable to procure bait. Many of them had to abandon their calling and go in search of other employment; and another officer similarly reports 'fishermen complain very much of the scarcity of herring for bait.' The three chief considerations which had weight in the inauguration of the Canadian bait-freezer system were: (1) The absolute necessity to the fishermen of the maritime provinces of ample supplies of bait at all times when required.

(2.) The abundance or rather superabundance of bait at certain times of the year and its scarcity at other seasons. While lack of bait was a calamity occurring almost every year, yet herring, squid, &c., were frequently abundant when not needed.

(3.) The desirability of a cheap supply of bait stored at a convenient place in every important fishing locality.

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Herring, of course, is the most important bait, but squid, if regular and abundant supplies could be obtained, could not be surpassed, while sand-lance and capelin have in the past been largely used. Mackerel, too, when abundant, are very frequently used as bait for haddock, mackerel and lobster fishing, and even lobsters are at times broken into fragments for baiting lobster traps. The various species of shell fish, known as clams, are very extensively utilized, the Nova Scotia fishermen being accustomed to rake their supplies of clams on the inshore flats of New Brunswick, though in recent years a growing scarcity there has caused them to seek supplies further north, in Prince Edward Island and in the northern New Brunswick clam beds. As a rule, the schools of spring herring occurring from the end of April to the middle of June are so regular and so productive in many localities, that vast quantities have been wasted or thrown upon the land for manure, yet in the summer and autumn the supply of herring bait is frequently utterly inadequate and fishing operations may be seriously hampered or even stopped altogether. Further, while bait may be scarce in one locality it may be abundant in another, but the time and expense involved in shipment may be too serious. On every ground, therefore, it seemed of the highest importance to encourage the establishment of bait-freezers along the coast, if the difficulties and objections pointed out could be avoided. Sir Louis Davies, on many occasions, very fully discussed the various aspects of the project with me, and in 1899 it took such practical shape that Dr. Kendall was asked to visit a large number of fishing centres and explain the scheme to the fishermen. His labours were Herculean. Professor Robertson rendered invaluable aid by personally attending and addressing fishermen's meetings held in the fall of 1899. As an immediate result numerous bait associations were formed in New Brunswick, Nova Scotia and Prince Edward Island. In the Magdalen Islands, P.Q., an association was formed after a visit by Dr. Kendall, but as the Provincial Government of Quebec have not yet passed an Act to allow of the incorporation of these bait associations, the movement has assumed no further practical shape. The local governments in the three other maritime provinces have passed the necessary local act, designed to afford a simple and inexpensive method for the incorporation of bait associations. The following extract from the Act passed by the local legislature of Prince Edward Island, dated June 9, 1900, will show the nature of the provision :—

1. Any number of persons not less than twenty may form themselves into a company for the purpose of purchasing, building, owning, managing and operating cold storage refrigerators for the purpose of preserving, buying, selling and trading in bait for fishing purposes by signing their names to a memorandum of agreement in the form provided in Schedule 'A' to this Act.

2. The signatures to such memorandum of agreement shall be proven by the oath of the subscribing witness, made before any justice of the peace, who shall grant a certificate in the form provided.

3. Upon the said memorandum of agreement having been filed in the office of the Provincial Secretary and the signatures thereto duly proven as aforesaid, and twenty per cent. of the subscribed capital having been paid up, the company shall be entitled by letters patent under the great seal of the province to a charter constituting the said company, and such other persons as may become shareholders in the company, a body corporate, for the purpose of purchasing, building, owning, managing and operating cold storage refrigerators for bait, and buying, selling and trading in bait for fishing purposes. No fee shall be charged for the great seal affixed to any letters patent.

4. The capital stock of any company formed under the provisions of this Act shall not be less than five hundred dollars of which one-half shall be subscribed.

One interesting and important step taken by the Department was the fitting up as an 'object lesson' of a bait-freezer at the annual Halifax Exhibition two years ago (1900). Three freezing chambers and one storage room, 12 ft. x 8 ft. x 7 ft., were erected, and the two methods of freezing bait, by means of pans and by means of crates were demonstrated. One side of the building was of plate glass so that the stored frozen bait could be seen by the public. Such intense interest was excited, especially amongst the fishermen who visited the exhibition, that the Nova Scotia Government decided to operate it themselves at the September exhibition the following year (1901). As the details given above indicate to a large extent the nature of the steps preliminary

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to the erection of each local bait-freezer, it is not necessary to do more than point out that a bait society must consist of twenty or more fishermen, or other persons associated with them, who shall raise a minimum capital of \$500 in 100 shares. A president, vice-president, directors, and treasurer, (who prepares the annual balance sheet) shall be elected by such association, and a secretary shall be appointed to keep the minutes of the meetings, details of the stock, and formal business transacted, and shall prepare an annual report. Each association forwards at regular intervals a printed form showing the details of the work of the freezer during the season, and after perusal by the principal officer in charge of the scheme, such forms are mailed to Ottawa for the Department's records. It is provided that each freezer shall receive at appointed times and store a quantity of bait up to 400 pounds for each share held by a shareholder, and such shareholder shall be charged not more than one-half cent per pound for freezing and storing the bait. The Dominion Government pay, during the initial years of the movement, a bonus to each association of \$5 per ton for bait properly preserved each season; but the total payment shall not exceed \$100 to each association in each year. The directors have power to sell bait not required by any shareholder, and one shareholder may sell to another, but it was specifically laid down that it was contrary to the design of the scheme to sell bait commercially to vessels. The Government felt that the sale of bait as a business must be left to private enterprise, not to state-aided bait-freezers. Strange as it may appear there was real necessity for this strict word of warning. To their own injury Canadian fishermen have repeatedly shown themselves ready to part with valuable bait to United States vessels, prosecuting the fisheries off our shores, not merely in violation of the most authoritative legislative regulations; but in direct opposition to their own interests, especially in times of scarcity of bait.

'The improvident abound amongst fishermen as well as in other classes of people reported a well known Nova Scotia official', and many an improvident fishermen will if the chance offers, sell for a trifle of money in hand the bait supply on which depends his chief catch for the season'. Every fisherman of a locality where a bait association is formed is eligible to become a shareholder, but he cannot hold less than one share (\$5.) Various modification of the original scheme have been found advisable. Thus in some localities the shareholders have been permitted to furnish their moiety of the cost of the freezer in the shape of labour, materials, &c., and the Government advanced its moiety (50 per cent) likewise in materials and money. The character of a bait association differs according to the locality in which it is formed. The following details of one of the most successful and typical association may be taken as an average example. The president, a fish dealer holds 20 shares (\$100), the vice-president also a fish dealer, holds 2 shares (\$10), while the secretary-treasurer, a fish dealer, is the largest shareholder and has 25 shares (\$125) in his name. Thirty-three fishermen hold stock to the amount of \$175, one having three shares and the rest one share each, while two farmers have subscribed for one share \$5 and 25 shares (\$125) respectively. For various reasons all the associations formed, have not yet built bait-freezers, but the progress of the movement may be seen from the number of freezers under construction or completed at the end of the first year, and at the close of the present season. In September 1900, there were erected or in preparation eight freezers. Those of McNair's or Ballantyne's Cove (20 tons capacity) Frog Pond, P. E. I. (20 tons capacity) and Alberton, P. E. I. (30 tons capacity) were in operation, and the fishermen were able to reap the benefits of the scheme. The Souris (P. E. I.) freezer (50 tons) was complete, but not operated; while Gabaru C.B. (40 tons), Port Hope Island, C. B. (20 tons), Whitehead, N. S. (15 tons) were still in course of erection, and one at Port Beckerton, N. S. (20 tons) was not being erected although the materials were secured ready for building. A year latter (1901) the number had more than doubled, for fourteen freezers were completed and ready for operation, seven of them being actually at work, and five new ones were nearly complete and expected to operate before the close of navigation. At the present time there are completed, in course of construction, or in the preliminary stage of preparation nearly thirty bait-freezers, five of them in Prince Edward Island, twenty-one in Nova Scotia (eight being in Cape Breton alone), and two in New Brunswick. The two associations in New Brunswick expect soon to have freezers completed, one at Shediac of 20 tons capacity, and one at New Bandon Gloucester County, of 10 tons capacity.

It was estimated that the total cost of materials and construction of a freezer, including the three necessary chambers, the ice house, freezing chamber, and insulated storage room, would be, on an average, \$500 for one of 10 tons capacity; \$700 for 15 tons, \$1,250 for 20 tons, \$1,400 for 30 tons, \$1,600 for 40 tons and \$2,000 for 50 tons. As was anticipated, the cost has varied somewhat, the variation arising from the comparative accessibility or the remoteness of the location, the price of lumber, the time of the year when erected, &c. Some of the smaller freezers first erected exceeded in cost the official estimate; indeed, that at Frog Pond, P.E. Island, of 15 tons capacity, cost \$1,180; but it has been found that 20 tons can be readily stored in it. So also the 20-ton freezer at Ingonish, C.B., cost \$1,411; but others cost less than the estimated amount, as for example the 30-ton freezer at Alberton, P.E.I., which cost only \$1,346, and the 40-ton freezer at Port la Tour, N.S., \$1,380; while the 50-ton freezer at Souris, P.E. Island, cost \$2,064, or only \$64 in excess of the original estimate. After the first year, it is generally admitted that operation of a freezer need not exceed  $\frac{1}{2}$  c. per lb. of bait. Of the success of the freezers now in operation, it can be safely affirmed that they have equalled official expectations. Some, no doubt, have failed for various and unavoidable reasons, while others have achieved the most remarkable success. The fishermen of Bayfield, Antigonish County, N.S., who desired to move cautiously, have found their small 10-ton freezer inadequate, and have appealed to the Department to sanction its enlargement to at least 15 tons, while the freezer at Souris has, on the contrary, been a disappointment, for its storage space, nominally 50 tons, is really 55 tons, and in its first season, only 30 barrels of herring, between seven and eight tons, had been frozen in it, the fishermen having missed the earliest and best run of herring. The Ballantyne Cove freezer, the first erected under the bait-freezer scheme, contained only 11 tons of bait in the pans, and two tons in crates, while the Petit de Grat establishment, after its completion, was almost filled, its 20-ton store chamber, containing over 16 tons of valuable squid bait, the most coveted of all fishermen's bait. The Ingonish freezer, Cape Breton (20 ton capacity) was completely filled with frozen herring. The Alberton (P.E.I.) freezer has proved an inestimable boon to the local fishermen, though in its first spring, only 10 tons of bait had been frozen up to the middle of May, 1900. Of such value have these establishments proved to be that in certain cases the fishermen would have lost their season but for the bait available in the freezers. One prominent authority in Prince Edward Island informed the Department that 'without the freezer a population of over 100 men, almost wholly dependent on the fishing for a living, would have been compelled to leave the business and locality, but for the assistance afforded by this institution. Of the 3,309 tons of fish caught by the local fishermen referred to, almost every fish had been taken by means of frozen bait. Where a freezer has not been a success, the reasons are very various. In some cases the cause was avoidable, in others beyond control. It cannot be denied that the indifference or indolence of the fishermen has led to failure; in one or two cases carelessness or incapacity in operating the freezer was the cause; but in some cases stormy weather prevented the usual captures of herring when the schools came in, or as in several instances, the nets were set and were destroyed by the hordes of dog-fish which for two seasons have abounded along our Atlantic shores. In localities where bait was plentiful in the fall, it was unnecessary to use frozen bait, as the fishermen almost universally hold the opinion that fresh bait is more effective than frozen bait, an opinion for which there is really no good basis. Frozen bait is wholly unlike 'iced' bait; it is firmer, more lasting and gives the hook a better grip; indeed, it is claimed by one of the most experienced fish merchants in Prince Edward Island (in a letter in June, 1900, to the Department) that 'this frozen bait is equal to any fresh unfrozen bait. It remains so firmly on the hooks and does not tear like iced bait.'

The varying success of the scheme during the last two years does not affect the statement that the freezers in most cases have been an untold benefit. In many localities the fishing would have been a total failure but for the reliable and plentiful supply of bait afforded by the freezer in the vicinity. Not only so, but many of the fishermen actually had better fishing than usual. Many examples might be given. Thus a Prince Edward Island fisherman last season secured a little over  $11\frac{1}{2}$  tons of cod up to July 8,

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by overhauling his long lines or 'trawls,' as they are locally called, twenty-four times. Three-quarters of his bait (viz., 262 pounds) he obtained on sixteen different occasions from the local freezer. It may be pointed out that one fishing boat using 1,000 hooks for the whole season, requires about 1,000 pounds of bait, and a bait freezer supplies that quantity on three shares (each share by regulation representing a maximum amount of 400 pounds of bait, as already stated). As the bait-freezer system develops and the whole Atlantic shore, with the exception of a few localities specially circumstanced, becomes dotted with these state-aided institutions, the deep-sea and shore fisheries are bound to advance with unwonted rapidity. The bait-freezers will remove one of the main causes of difficulty and failure in the pursuit of the fisheries, and at insignificant cost to the fishermen. It may be pointed out that a bait-freezer is not a very large or complicated erection. A 20-ton freezer, as a rule, measures 20 feet by 38 feet by 17 feet in height. The herring, squid, &c., are first brought to the freezing room in a fresh and firm condition. They must not be soft or tainted, as unsound fish do not make sound frozen bait. The fish are frozen in the building, or sometimes outside if the weather be favourable. Two methods are adopted, viz., the galvanized iron pan or the lath crate system. The pans are excellent both for rapidity and efficiency, and rapidity is often of importance as the schools of bait fish, whether herring, squid or whatever they may be, frequently disappear suddenly. The schools of herring in spring often appear so erratically that they can be caught on not more than seventeen to twenty days. The crate system, while it takes a longer time, demands less labour in freezing, a smaller amount of ice and salt, and the fish stand handling better. A freezer consists of three portions:—

(1.) An insulated (A) freezing shed or room.

(2.) An insulated storage room arranged for holding the full quantity of frozen fish but capable of being partially shut off, that if necessary one quarter of its space can be used and kept iced and cold.

(3.) The ice store.

The building, it may be pointed out, is usually constructed of seasoned hemlock, planed on one side, with tongued and grooved spruce for interior finish. Outside the freezer is shingled. The insulation of the storage room can be secured in various ways. That found most effective and usually adopted, is an arrangement of dead air-spaces between double walls, formed by the use of paper and lumber. The insulating paper is "3-ply P and B" and the "2-ply Giant," supplied by the Standard Paint Co., New York. Saw-dust and eel-grass, as an insulating packing, are no doubt available in many localities on our shores, but both deteriorate and settle down. The insulating paper is therefore most reliable.

As the two methods 'pan-freezing' and 'crate-freezing' differ in certain details, it will be necessary to describe them separately.

The first method, freezing the fish in metal-trays or pans, may be briefly summarized as follows:—

(1.) The fish are placed in galvanized iron pans 28 in. x 18 in. x 3 in., made of No. 26 to 20 iron, and provided with a tight-fitting lid. Each pan holds 30 to 40 lbs. of fish, and costs 50c. to 60c.

(2.) The filled pans are transferred to an insulated freezing box or pen, with insulated sides and double boarded floor. The insulating paper is placed between the boards. The front is closed by means of sliding boards, and the floor is pierced with drainage holes or outlets. A space of 4 inches must be left around each pan.

(3.) The pans are placed on a layer of saw-dust covering the floor of the pen a few inches deep, upon which crushed ice and a little salt to a depth of five inches, have been scattered.

(4.) The first tier of pans is then covered with 4 in. of crushed ice, mixed with  $\frac{1}{2}$  or less of salt. Successive tiers of pans and layers of ice and salt (4 inches deep) are piled up to a height of five or six feet.

(5.) The top tier or pans having been duly covered with its layer of ice and salt, the empty salt bags are used as a cover.

In twelve to twenty-four hours the fish being moist are frozen together in a solid cake in each pan. The pans are then dipped in water, the cakes of fish become detached

and are dropped out, and are neatly piled in the storage room to be kept till required for use. The process of crate freezing is as follows:—

(1.) 40 lbs. or 50 lbs. weight of fish is placed in a lath crate or cage 24 in. x 18 in. x 3 in.

(2.) The filled crates are passed into the freezing chamber for a period of 24 to 36 hours.

(3.) The fish in the crates, after being frozen, are transferred to the storage room, and preserved until required.

The freezing chamber resembles in its essential features the storage room. It is not only insulated like the freezing pen in the 'pan freezing' process, but the sides are formed of large freezing plates or tanks eight inches wide, passing up from the flow to the roof and through the ceiling, and fixed at right angles to the adjacent wall of the room. These tanks are filled with a freezing mixture of ice and salt, which can be placed in them without opening the freezing room. Between each tank projecting into the chamber above, is an air tight shutter, and an arrangement is made for draining away the overflow of brine. More salt is used in the freezer than in the battery of tanks in the storage room, and it is requisite that from  $\frac{1}{3}$  to  $\frac{2}{3}$  of a square foot of freezing surface should be provided for every cubic foot of space in the freezer.

The storage room, to which the frozen fish from the pans, or the crates, are finally transferred, has—

(a.) Well insulated walls.

(b.) Inclined flow with gutters and trapped outflows pipes.

(c.) Ample tank surface.

(d.) Air-tight doors.

(e.) Inner sliding door with central opening for passing the frozen fish through this door is provided with a weighted curtain.

The flow of the storage chamber and the walls, where not covered by the tanks, should be grated to prevent the fish touching the building itself. Moreover, every precaution must be taken to prevent undue moisture which encourages bacteria and vegetable moulds, and a slight sprinkling of water (to which one-tenth of formalin has been added) is desirable if micro organisms, mould, &c., do appear. A coat of frost inevitably forms upon the galvanized iron surfaces after a time. This must be removed when possible, as it acts as a kind of blanket deadening the effect of the freezing mixture in the tanks. The air-tight outer door is an important feature. The frame is 2 in. x 4 in. scantling, sheathed on both sides, and filled with dry saw-dust. The sheathing on one face projects a couple of inches, and special rubber packing is fastened to it, so that when the door is closed, the rubber is compressed against the door casing, and all escape of cold air is thus prevented. The inner door slides on rollers, and has an oblong opening in the centre to allow the cakes or the crates of frozen fish to be passed through. It is covered with a duck curtain weighed at the bottom. It is hardly necessary to point out that the greater the superficial surface presented by the battery of tanks in proportion to the size of the room, the cooler will be the interior, and the smaller the room the larger must be the surface proportionately which the tanks should afford. Moreover, it has been found by experience that for small freezers of 10 to 15 tons capacity the pan system is best; but in 20-ton and larger freezers the crate system is preferable. At the first freezer, erected under the Department's auspices at Ballantyne's Cove, N.S., both methods were adopted during the first year, 11 tons in pans and 2 tons in crates. When frozen bait is taken out of the freezer to be used by the fishermen, it should be placed in a small cold storage box on board the boat if possible, but if covered in three or four thicknesses of canvas or sacking, and effectively hidden away from the sun's rays, such bait may be kept in a good frozen condition for two or three days. Leaving the details of the working of the freezers, and it has been desirable to state them as concisely as possible for the sake of brevity, it remains only to make reference to the possibilities and future development of the bait-freezer system in Canada. In the course of its progress some of the difficulties which I pointed out in my first official memorandums (in July, 1895 and May, 1899) have been encountered. I anticipated them; but I felt satisfied that none of the difficulties would be insuperable, or too serious to readily solve. Perhaps the gravest of these difficulties is the lack of experienced and capable men in

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each locality to ensure the successful working of the freezer after its completion under Government auspices. When the subject was first discussed departmentally I laid stress on that point. It appeared to me that a large staff of specially qualified officers might be absolutely necessary, or in many cases the bait-freezer would fail through inability or inattention in the part of the local fishermen's association. As I anticipated, it is being found that the Department will be almost certainly called upon to provide efficient management 'It will be necessary in almost every case' reported the principal officer supervising the freezers, 'to have a man in charge of the freezers in spring to teach the fishermen the methods of using them.' Not only is such instruction desirable; but, for efficiency, continued official supervision is necessary. In one or two cases, neglect to scrupulously attend to the icing of the chilling battery has endangered the entire contents of the bait-freezer. If fresh ice be not added, as required, the temperature rises, and the bait immediately begins to thaw. After thawing has commenced, the reduction of the temperature again merely freezes the outside fish, and those inside the caked masses may continue to heat and putrefy, and spoil the whole stock of frozen bait. It is creditable to the leading fish-merchants along the coast, many of whom run bait-freezers as part of their business, that only a few protests or complaints have been made. Two firms have claimed a share in the appropriation for the bait freezer scheme on the ground that they had erected private freezers, rendering unnecessary Government freezers in their locality, and urging that they benefited the fisheries by supplying bait to the fishermen. There has also appeared in many fishing centres a lack of interest, and in other cases a want of energetic business capacity, which present an insuperable obstacle to the progress of the movement in such localities. It is in these localities that a Government-aided freezer, if erected, will be bound to fail through neglect, or gradually pass into the hands of a few parties, probably a single business firm. The most immediate danger of abuse, as was foreseen, was the possible sale to foreign fishermen of bait stored by Canadian fishermen in the Government-aided freezers, and there was special danger arising from the fact that the great fleet of fishing boats from the Eastern states annually pass along the whole of Atlantic coast. Many of these boats take out a license, under the Act of 1892, enabling them to enter bays and harbours for the purpose of purchasing bait, ice, seines, lines and other supplies and for shipping crews, &c., while without a license such vessels, under the convention of 1818, may enter harbours for shelter, repairs, wood and water, but not to purchase supplies of bait. Sir Louis Davies laid down an important limitation in the initial stages of the bait-freezer scheme when he said: 'The Government does not contemplate assisting in the erection of freezers to supply bait commercially to vessels. That must be left entirely to private enterprise. Much less is it intended to aid in erecting freezers to supply United States fishing vessels with bait.' As to the future progress of the scheme, while it will of necessity involve the continual erection of small freezers suited to the needs of limited fishing localities, under the auspices of local bait associations, the system can hardly end there. Within these limitations no doubt the local demands for bait on the part of the shore fishermen can be met; but it appears inevitable that freezers of larger capacity at central fishing ports will require to be included. The claims of the deep-sea fishermen, the 'bankers,' cannot be ignored. They form a most important section of our fishing population, and there is every ground for favouring such a development of the present system as to provide for the 'bait' requirements of the deep-sea fishermen. The erection of capacious freezers, holding several hundreds of tons of bait, would provide full and reliable supplies for that special demand. One of the leading Nova Scotia fish-merchants, owning a large bait-freezer, has strongly urged the establishment of capacious freezers under Government auspices, so important and imperative is the demand of the 'bankers' in the eyes of enlightened and enterprising firms engaged in our great sea-fishing industries. Others, like the Hon. William Ross, of Halifax, N.S., anxious that nothing should be left undone that will advance the prosperity and growth of the Atlantic fisheries of Canada, have urgently advocated the construction of large freezers. Mr. Ross in 1899, for example, urged that bait-freezers of large capacity should be erected at points such as St. Ann's, Cape Breton, where the 'bankers' might secure ample supplies of bait, without trespassing upon the supplies provided by the smaller freezers, which were designed to supply the



shore fishermen. Such a development of the scheme would involve material changes in the Department's regulations, as set forth in the special bulletins issued from Ottawa. It would also necessitate a largely increased parliamentary appropriation. A bait association having for its object the erection of a capacious bait-freezer holding 200 tons to 300 tons of bait would be wholly different in the character of its membership and management from the small bait associations of the shore fishermen. Men of capital alone could raise the shareholders' moiety if the freezer was to cost from \$40,000 to \$50,000. The working details would, indeed, require the most careful consideration in order that it might avoid causing dissatisfaction and arouse unfavourable criticism. It is a legitimate development of the bait-freezer project, and would do great things for the deep-sea fisheries along our Atlantic sea-board.

A closing word appears to be called for in regard to a permission, tacitly conceded, to utilize the cold storage buildings for fish, other than bait fish. The original intention was to store bait, and bait only, and the various provincial acts passed within the last two or three years to sanction the incorporation of fishermen's bait associations, specifically state that such associations are for the object of erecting, owning and operating cold storage refrigerators for the express purpose of preserving, buying, selling and trading in bait for fishing purposes. It has been pointed out that the whole space in the cold storage room is not always fully occupied, and that in this vacant space fish for market could be stored, without extra expense and with benefit to the fisherman. Such storage has been permitted, but in no case can this be legally done, nor, indeed, should it be permitted if there is bait sufficient to fill the cold-storage room to its full capacity. The freezers are bait freezers essentially, not commercial cold storage warehouses for market purposes. It is true that the fruit growers and agriculturists have been provided with cold storage and transshipment facilities by the government, and there is force in the contention that the fishermen have an equally just and imperative claim. This further extension of the scheme so that it may include storage of frozen fish for sale and market purposes is one for future consideration, together with the suggested inclusion of bait-freezers of large capacity at a few important fishing ports in order to supply bait for the bankers and deep-sea fisheries.

## II

## THE FISH-WAY PROBLEM.

BY PROFESSOR E. E. PRINCE, DOMINION COMMISSIONER OF FISHERIES, OTTAWA.

There are few subjects, relating to fish and fisheries, upon which more diverse views have been expressed than upon the subject of fish-ways or fish-passes. The forms of fish-ways invented are innumerable, and yet it must be admitted that one perfectly satisfactory and capable of ensuring the ascent and descent of the most important migratory fishes is still a desideratum. The conclusion arrived at, after full discussion at the Conference of Dominion Fishery Inspectors, held in Ottawa in April, 1891, no doubt holds good at the present time that 'wherever a natural pass in a river can be maintained, either by building a wing dam or by making a channel, such is to be preferred to any artificial pass.' In spite of the numberless suggestions made on the matter of overcoming obstructions to the migrations of fishes in our rivers, and in spite of the variety of fish-passes, which inventive minds have devised, the problem remains to-day in a far from satisfactory condition, and constitutes one of the most difficult which the fishery expert encounters. After an experience more thorough and extensive than it has probably been the privilege of any other living fishery expert to have, I have come to the conclusion that the decline in the fisheries in inland water is more directly due to obstructions, natural and artificial, than to any other harmful cause. Over-fishing, poaching on the breeding grounds, injurious freshets, and similar natural causes, saw-dust, and other pollutions have all worked injury more or less serious, but none of these compare with the deadly effects of closing the upper waters to the ascent to the schools of spawning fish, and of blocking, by dams, &c., the movements, up and down, of the various migratory species in the young and the adult condition.

The primary difficulty in solving the problem, arises from the fact that every obstruction presents some peculiarity separating it from others. No two cases are precisely alike. This has long been recognized—indeed the Nova Scotia House of Assembly forty years ago placed their conviction on public record, and said that 'owing to the peculiarities of the different rivers and dams, it is quite evident that no one particular kind of fish-way will suit each case.' A committee of the legislature had, in 1865, recommended a form of fish-way according to a model submitted to them, but before finally deciding the matter, the Provincial Game and Fisheries Society were consulted, and they reported that, as it was not suited to every locality, they proposed to obtain full information *re* the various forms of fish ladders found to be effectual in other countries. It was futile to insist, as many legislative bodies have done, on owners of dams erecting fish-ways, and requiring by statute that such fish-ways should be designed on an authorized plan to be furnished by the state, if no authorized plan is possibly suitable for all obstructions. The Wisconsin Fisheries Act, U.S.A., chap. 357, passed in 1895, contained, as our Dominion Fisheries Act (R.S.C. chap. 95) does, a provision that the government shall provide plans of an approved fish-way. It devolved upon the fish and game warden in each locality to supply them; but the state, of course, had to furnish them in the first instance. In the Fish Commissioner's report of that state (1896) it is admitted that to furnish an authorized plan suited to all the various obstructions existing was impossible. Other difficulties also are named, such is the insufficient amount specified to be the maximum cost, and the great risk of unjustifiable prosecution to which owners of dams might be subject, in view of the fact that half of the fines and penalties were to be paid to informers, and unscrupulous parties would be encouraged to prosecute for private gain merely.

In the Dominion the power is vested in the Minister of Marine and Fisheries of deciding whether or not a fish-way shall be erected in any dam or other obstruction, the ground for the Minister's decision being 'the public interest,' and the cost of construction and of maintaining it, in an effective condition falls upon the owner or occupier of the dam. Subsections 1 & 2 of section 13, R.S.C., Fisheries Act, chap. 95, provides as follows :—

13. Every dam, slide, or other obstruction across or in any stream where the Minister of Marine and Fisheries determines it to be necessary for the public interest that a fish-pass should exist, shall be provided by the owner or occupier with a durable and efficient fish-way, which shall be maintained in practical and effective condition, in whatever place and of whatever form and capacity will admit of the passage of fish through the same; and the place, form and capacity of the fish-way may be prescribed by any fishery officer by notice in writing :

(2.) Every one who violates the foregoing provisions of this section shall incur a penalty of four dollars for each day during which any such obstruction remains unprovided with a fish-way, after three days' notice in writing to the owner or occupier thereof.'

The Minister has power to authorize payment of one-half of the expense incurred, if in his opinion the circumstances warrant : but the option is frequently not exercised as the cost of fish-ways is often very moderate. In cases where owners of dams may be obstinate the Government may build the fish-way, and recover the cost from the parties. It has been generally held to fall upon the Dominion Government to provide plans and specifications, whereas the Act says only that the place, form and capacity of the fishway *may* (not *shall*) be proscribed officially. Strictly speaking the matter stands much as it does in England where, while fish-ways may be insisted upon it is the duty of the Government merely to examine and approve. Otherwise the responsibility rests upon the Government to examine the obstruction and fully ascertain all the conditions, a knowledge of which is necessary before the type of fish-way appropriate, can be decided. The local parties on the other hand are much more likely to have a full knowledge, not merely of the obstruction ; but of the peculiarities of the river, the runs of fish, nature of freshets, ice, &c., than the Department in Ottawa.

The first step necessary is therefore, to decide what are the particular features of the locality where an obstruction exists, and adapt the fish-way to those conditions. This is the conclusion, which a distinguished Yorkshire authority, Mr. J. H. Horsfall, of Leeds, reached in 1851. He said : 'The proper situation of a fishway can only be known by experience, and no two weirs or mill-dams are alike.' Not only so, but it is necessary to provide for the peculiar requirements of the various fish frequenting the waters under consideration. The conditions appropriate for facilitating the ascent of salmon are not precisely those adapted for gaspereaux and shad, while sturgeon require a different means from those suitable for black bass, suckers, or pike-perch (doré). This does not imply that the same fish-way may not be so adapted as to be used by many different kinds of fishes, for there is really no good reason why one type of fish-way may not, in the details of its construction, provide for the necessities of many species passing up the same river or creek. At the same time it must be admitted that, in a vast territory such as ours, the conditions from every point of view, must vary infinitely, the rivers of the east and the west coasts, and of the immense interior plains, are so different ; the habits and requirements of the fish are so unlike ; that it is hardly to be expected that one type of fish-way can possibly be devised adequate to meet all the conditions presented. Indeed, this has been found to be so, and as the officers of the Marine and Fisheries Department are required by the Fisheries Act, 49 Vict., chap. 95. 1886 : (in each case where it is decided that a fish-pass shall be provided in the public interest) to prescribe the location, form, and capacity of the fish-way, the result has been that in numerous cases no steps have been taken. In England the responsibility, in a similar manner, was placed by law upon the Board of Trade, or rather, it may be said that while the law does not lay upon the Government officers directly, the duty of prescribing the form of fish-pass in each particular case, or of supplying the plans and specifications, it does require that every fish-pass erected shall be inspected, and shall meet the approval of the Board of Trade, such inspection and approval being of course

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that of His Majesty's Chief Inspector of Fisheries, or one of the several inspectors of salmon and fresh water fisheries in England. In the United States the task of deciding the type of fish-pass devolved in many states upon the state officials. Thus in the state of Wisconsin, the law not only requires the fish and game wardens to furnish the plans, as already stated, but by the Wisconsin Act of 1895 (Chap. 337) it is provided that no fish-pass shall exceed in cost the sum of \$150—two conditions fatal of course to any official action being taken. The local wardens are rarely in a position to devise the proper fish-way and provide plans; and no efficient pass could be, as a rule, constructed for so small a sum as \$150.

A survey of the nature of the problem, of the conditions which surround it, and the different solutions offered in the shape of fish-ways devised by various inventors, may assist in clearing away misunderstandings, and point to the most likely means of finally solving this great and serious question.

*Dams pernicious to fisheries.*—I have already stated my opinion that no other cause compares, in its harmfulness to the fisheries, with the erection of high walls or dams across rivers up which fish have been accustomed to migrate. Whether these dams be merely to create ponds for the collection of logs in the forest, or to raise the water over extensive areas for floating timber into main streams and channels, or for saw-mill and other water-power purposes, no cause has been more effectively injurious, or has so directly caused deterioration in our supply of fresh-water fishes. To prevent the spawning fish from reaching their accustomed breeding grounds is to, at once, exterminate them by an effective and rapid means.

*Salmon and Trout affected.*—Salmon, it is true, can surmount very formidable obstacles. Under natural conditions, falls, rapids, partially submerged trees and rocks, have frequently rendered difficult their ascent; but their possession of extraordinary leaping and wriggling powers, has enable them to pass up even vertical obstructions with surprising success. Few fish have this power, while fewer still can crawl or wriggle up the face of damp rocks, or even over grassy lands, as the eel does, in order to reach the upper waters, when migrating from the breeding grounds in the sea. Fish-ways should, however, not only provide for the ascent of fish; but they should provide for their safe descent too. This is often forgotten. It is all-important that the adult salmon should reach the upper spawning pools; but provision should also be made for the descending smolts and grilse when on their way down to the sea. All kinds of fish, frequenting fresh-water areas, are affected detrimentally by artificial obstructions; but the injurious effects are of course most apparent in the case of migratory species (whether catadromous or anadromous) which like the salmon, sea-trout, shad, gaspereaux, &c., move up annually to more or less distant spawning grounds.

*Other species deterred.*—The migratory instinct varies in degree in different species. Few fish are stationary. Even the lake-pike, or jack-fish, will move over a considerable distance before selecting a place in the marshy shallows suitable for depositing its spawn. Some years ago I noticed large schools of small pike (*Esox*), moving up small streams in the fall, in the district of Saskatchewan. They were evidently migrating from one lake to another on the search for new spawning grounds, or for suitable waters, in which to pass the winter. Black bass, likewise, are found to move over considerable distances. No doubt suitable spawning localities can be found without extensive wanderings, yet they perform such wanderings, and are found to use fish passes as constantly as other fish when suitable ones are provided. Such fish as the pike, maskinongé, black-bass, and allied sunfishes, the catfish and carp-like suckers are less seriously affected as suitable spawning shallows occur in almost any section of a river or lake above tidal limits; but it is different with shad, gaspereaux, whitefish, pickerel (or doré), sturgeon, and above all with salmon, for these latter fish have the irrepresible instinct to move in schools, and as the spawning time approaches, they frequently migrate long distances in order to reach their breeding resorts. Some species of Pacific salmon traverse a distance of over a thousand miles to reach the shallow areas far from the sea where they deposit their eggs.

*Obstructions may rarely improve fishery.*—It is probable that no fish are really non-migratory, in the strict sense of the term; but the less migratory kinds specified above, do not suffer such serious injury as the salmon and typically migratory fishes.

Nay, the erection of obstructing dams may even increase the numbers of these fish by confining them within smaller limits, and preventing their dispersal over extensive areas. In certain portions of the Richelieu River, in the Province of Quebec, species such as the black bass and pickerel or doré, increased in numbers, according to the local fishermen, after the completion of certain high dams, built for electric and water-power purposes. They found plenty of suitable spawning grounds within the narrower limits, and the schools of young could not move far away as they once did, hence the fish supply in that locality substantially improved. A similar effect had been noticed on the River Thames in England in 1864. Mr. Ffennel pointed out that the fishermen of Teddington had made vastly increased captures of lamp-eels, or lampreys, on account of the obstruction caused by the weir or dam at that place. Formerly these fish passed a considerable distance above; but after the obstruction was created the supply below is said to have nearly trebled each season. Of course the fishermen above had their supply cut off, and protested to the authorities their rights had been interfered with. Four or five years ago I found that a mill-dam erected on a trout stream in Guysborough County, N.S., had most beneficially affected the fish supply and had in fact improved the fish in size and quality. A stream pouring into the sea in Chedabucto Bay, Guysborough County, contained small brook trout which through excessive angling had been reduced in numbers. During certain months, especially in June, large numbers of fine sea-trout made their appearance at the mouth of the stream, and later in the year, ascended for spawning purposes. These are the kind of trout which, Dr. Perley said 'abounds in the Gulf of St. Lawrence, and is found early in June, along the northern shores of New Brunswick, and in the estuaries of these rivers of New Brunswick and Nova Scotia, which flow into the Gulf; it is caught in nets at the Magdalen Islands in summer, and salted for export.' He adds that it is 'a thoroughly game fish, rising well at a brilliant fly of scarlet ibis and gold, and affording sport second only to salmon fishing. The writer has caught this fish with the scarlet ibis fly in the break of the surf at the entrance to St. Peter's Bay, on the north side of Prince Edward Island, of the weight of 5 pounds; the largest in the Gulf rarely exceeds the weight of 7 pounds, and those are taken at the Magdalen Islands.' A dam built across the stream near Guysborough had cut off some of the spawning sea-trout and effectually prevented the descent of the young to the sea. The result was that the stream was abundantly stocked with land-locked sea trout, more gameful, larger in size, and superior in many respects, to the brook trout which permanently lived in it before.

*Effective fish-passes benefit all fishes.*—Whether a fish-pass, built to facilitate the ascent of salmon or shad, will indirectly benefit other species, has been much questioned. The late Mr. Cheney, an enthusiast, who possessed a large amount of practical knowledge, once pointed out that on a visit he made to the Binghamton Dam on the Susquehanna River, N.Y., where a fish-pass was about to be built, he found a horde of men and boys stationed on every available spot taking quantities of black bass below the apron of the dam. On a single day eight or nine hundred bass had been captured as the fish 'gathered just below the apron and could go no further up.' Mr. Cheney saw the urgency of a fish-way there as likely to be an immediate benefit not only to the bass but to many other species too. There are few kinds of river fish of which it may not be said (to quote Mr. Cheney) that they will not 'quickly avail themselves of the benefit to be derived from a fishway.' Records have been kept of the kinds of fish ascending fish-ways after their erection, and the list as a rule is a varied one. In the New Hampshire Fish Commission Report 1880, is given one of these diaries or daily lists. In May, alewives (or gaspereaux), suckers, lampreys and silver eels were observed in the fish-way at Lawrence, while in June 20 or 30 salmon were noticed, and a few alewives and suckers, as well as chubs and eels. In July the principal fish noticed were eels, though a few black bass passed up. From August 6 to 16 the water was very low, and the fish-way was closed, but on October 3, a salmon ascended no doubt the first of the late run; but unfortunately on October 9, and during the rest of the month, the water was shut off just at the time when the most important fish in the river were on a move.

*Initial difficulties in erecting fish-passes.*—There are many difficulties to be faced when locating a fish-way. The owner of the dam objects to too much water being usurped for the pass, he as a rule insists that the fish pass will weaken his dam, and be

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strongly complains that he should be called upon to bear any part of an expense, which is of no benefit to him as a business man. As the prime object of a fish-way is to enable fish to surmount an obstacle difficult or impossible for them to ascend it is necessary to so arrange the fall of water in the pass as to reduce its gradient and momentum. The readiest method is to so impede or divert a portion of the falling water as to achieve that reduction, and so arrange the descending stream that the ascending fish may not find it beyond their physical powers to reach the top. As a rule, resting places or eddies are devised that the fish can recuperate their energies and continue their ascent from stage to stage. From the practical man's point of view the question of cost is a first difficulty hence a fish-way should attain the greatest effectiveness at the least cost, as Mr T. F. Knight long ago insisted in his little work on the 'River Fisheries of Nova Scotia, 1867.' A gradual gradient is a most desirable and necessary feature; but if the incline be too gradual the fish-pass will be of great length in the case of a considerable obstruction say 25 to 50 feet high. thus increasing the expense, and in most types of fish-pass, carrying the lower opening or entrance too far down stream to be found by the migrating fish. If placed above the dam, with the lower opening at the base of the obstruction, there is imminent danger of damage or destruction from ice, logs, high freshets, the accumulation of debris, &c.

*Useless fish-passes.*—Notwithstanding the amount of thought and patient ingenuity exercised in overcoming the difficulties arising in connection with the successful working of fish-passes by various inventors, it must be confessed that few fish-ways can be shown beyond question to be successful. The observations of H. M. Inspector of Fisheries in England, published in 1886 still hold true. 'The two chief obstacles' he says 'to improvement are obstructions, and excessive capture of fish, and where fishing weirs exist these two are often combined. Over netting, when actually proved to be practised, may be restrained by appropriate by-laws, it being always necessary to bear in mind that the ultimate object of the salmon laws is not to provide sport, but to provide food. Fortunately for the angler the course which is the most productive of food is also the most advantageous to his pastime, and as it is he who commonly has to preserve the spawning fish, and to find money to supplement the statutory funds of the boards, it is reasonable that he should get some return. Until a full stock of fish has been raised it is undoubtedly for the ultimate advantage of all parties to impose reasonable restrictions on capture. Where fishing dams exist they are in all instances prejudicial, and in some fatal, to the river. The fact that the fish-passes attached to them were necessarily among the earliest erected at a time when the most suitable conditions were little understood, and that these fish-passes are consequently as a rule ineffective, adds greatly to their destructiveness.

'Obstructions by ordinary dams are more easily dealt with, but it is lamentable in going about the country to see the numbers of useless fish-passes with which the weirs are studded. Of these only a small fraction have received formal approval, and of those which have been approved but few are really efficient, it would be difficult to find half a dozen passes of magnitude which are really effective. A distinction may, however, fairly be made between those which the owner is required by law to erect, either for the maintenance of his fishery, or as part of the structure of his new weir, and those which are built without legal obligation. The former should certainly be required to be constructed on the best known pattern. But the cases in which passes are erected voluntarily are somewhat different. In these the protection of approval should be afforded to designs which have proved only moderately successful, rather than to leave the obstruction impassible, or the pass liable to removal.'

The late Mr. Samuel Wilmot in a report in 1890 laid stress in the unsatisfactory working of most existing fish-ways: He said:—'The undersigned has been instructed on several occasions to visit and inspect certain fish-ladders in different parts of the country, and in every case has found them to be perfectly useless, either from unsuitability of location or want of proper construction, the consequence of which has been that these passes, which cost considerable sums of money to help sustain the fisheries of the locality, acted the reverse way, by giving greater facilities to persons to kill the fish at the entrance of these passes, and by squandering the money in the construction of them—thus showing the necessity that exists for adopting the most perfect fish-ladder

now known, and compelling the owners of mill-dams to put in these passes, under the requirements of the Fisheries Act, sec. 13. This want of a duly authorised fish-ladder, and the delay in having an efficient one put in every mill-dam or slide or other obstruction in all of the streams of the country, is telling most severely against the keeping up of fish life by the natural as well as the artificial methods of reproduction.'

'There is little hope that any universal form of fish-way can be devised. Local conditions make that hardly possible. Even the carefully planned and scientifically constructed fish-way of the late Col. Marsall McDonald, which theoretically appears to overcome all the most serious obstacles to success, is only moderately effective, and may indeed be a failure. Thus the McDonald fish-way at the dam, across the Santee, at Columbia in 1883 is officially reported to have been fairly successful for certain species when kept free from rubbish; but the most valuable fish such as shad do not appear to use it, while the same form of fish-way at Blairgowrie, in Scotland, proved a total failure for salmon, according to inspector Walter Archer (see Scottish Fishery Board Reports, Pt. II 1892). Instances might be given without number, of large expenditure by public bodies and private owners in the construction of fish-ways which were entirely fruitless. A notable case is that of the construction of a tubular passage to afford salmon access to Lough Mask in Ireland. For four miles below the lough stretched a mass of broken and dislocated rocks forming an impassable barrier. As a correspondent at the time wrote"—

'To make a pass for the salmon over this terrible broken ground was a great problem, but it has been solved in a very ingenious way, for a huge iron trough, like half one of the large water-pipes one sees in the London streets, 3 feet in diameter, and measuring no less than 1,000 feet in length, has been placed down over these broken stones. This trough was made in England, and transferred all the way to Galway in separate pieces, and then fixed in its place with coping stone and cement. The expense incurred in this operation I leave to the imagination of the reader. When the water is in the pass, it rushes down this trough with great violence; and to enable the salmon to withstand this, resting-places have been made for them at various intervals.

'The question now arises—and a very important question it is—do the salmon avail themselves of this iron highway placed for their convenience over the rocks? The question was answered by Burke, the water-bailiff, who informed me that he has seen 7 or 8 salmon together struggling and fighting with the water in order to ascend through the iron trough, and every now and then resting awhile in the resting-places which have been formed by them. Still, however, it is a disputed and a very doubtful point whether these salmon eventually get up into Lough Mask, or whether they have not fallen back and make the beds which I have described as existing in the lowermost portion of the canal, for, as yet, not a solitary adult salmon has ever been seen in Mask. Even supposing the fish have managed to get up through the iron tube, they have even then a very long distance to swim before they get to the sluice through which the Mask water pours itself into the pass. My friend, Mr. Ffennell, confirms the opinion which I and others interested in the subject hold, that this would be the most difficult point for the salmon to overcome, for here they would have their greatest battle with a terrific stream (with the whole of the pressure of the water in the lake behind it) running through iron sluices 10 to 12 feet square. I have it, on the authority of Mr. John Miller, that salmon have been seen to go through the sluice-gates at the Galway Weir, when the water was coming down with tremendous force; even then these fish were obliged to keep near the centre of the column of water, and to force the passage with a rush like a harlequin through a hoop; if perchance they came near the surface, the water would hurl them down back into the stream with the force of a round shot rebounding from the side of an iron-clad line-of-battle ship. Those fish that run through the Galway Weir, it must be recollected, are fresh-run fish in June and July, and not heavy in spawn; but the fish as Mr. Ffennell very wisely suggests, which have fought their battle in the month of October through the Cong Pass (which I propose to christen 'the overland route,' can hardly be called fresh-run fish, but are on the contrary, not only tired but also laden heavily with spawn, and naturally in a weak condition.

'I regret, therefore, very much to have to record my opinion, with which other much more competent persons than myself agree, that in spite of all the money

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expended in this Cong Pass, no single salmon has as yet ever gone up through this 'overland route' into it, and that the 22,000 acres of Lough Mask is still untenanted by this noble fish.

A fish ladder was placed in the river at Woodstock, New Brunswick, about 1881 or 1882, at the base of the dam there. Owing to its location underneath the dam, it was found to be continually choked with refused, leaves, twigs, bark &c. which sank at the bottom. 'It is acknowledged by every one' says the local officer in his report some years later, 'that a fish never got through it.'

*Holes and Dams used by Fish.*—It is a curious fact that in the very dam just mentioned above (Woodstock, N.B.) a hole was made by breaking away some of the timbers and immediately the salmon, hitherto deterred by the dam, and unwilling to use the fish-way, passed up through the regular aperture. Examples might be cited of this, numerous cases. On Bear River, Nova Scotia, a passage was made by removing some of the upper timbers of an old dam, and the salmon immediately took advantage of the opening. In the United States many similar instances are on record. 'Once or twice' said Colonel James Worrall, 'the Columbia dam was being broken, and they (the shad) have made their way above it and have been caught in small numbers at Duncan's Island. Similarly at Ship Harbour, N. S., where a Hockin 'sluice' fishway was built, as described later in this report, the heavy spring freshets in 1902, broke the lower part of the fish-way, and an opening in the dam was made at the end where the stream runs into the adjacent mill, when it was found that the fish ascended through the temporary opening and so got above the dam. Frank Buckland's view is supported by such cases as these for he said that, in many cases, the erection of a fish-pass could be obviated by heaping stones, trees and other materials so as to make small pools, and streamlets, and falls, up which the fish would wriggle, apparently enjoying the task of pushing through narrow crevices and between stones and twigs, when they would not dare to attempt the clear rushing out-pouring of the orthodox fish-pass.

*Lifting Fish over Dams.*—In view of the failure of fish-ways generally, ingenious enthusiasts, as a last resort, have adopted the plan of bodily lifting the fish over the dams which obstructed the ascending runs. Thus in the Liverpool or Mersey river, in Nova Scotia, quantities of gaspereaux, (there called 'kiacks') have been taken by local parties in dip-nets, and placed in the water above the dam. 'A boy lifted half a barrel of the live fish over,' I was informed by a local party when I officially inspected this river in 1901. A similar step had been recommended by Mr. Theodore Lyman to Col. Worrall, as recorded in the New Hampshire Fishery Reports, if it was found that the shad did not go up a fish-pass recently constructed for their use. Mr. Lyman was satisfied that the shad could ascend the fishway if they chose to do so, but he favoured transporting some from the basin below to the waters above the dam and arrange for the prohibition of shad fishing for five years. Similarly 1,600 salmon, grilse and adults, were in 1886 netted by the water bailiffs on the Dart (in Devon, England) below the Buckfast weir-obstruction, and replaced in the water above, with the most beneficial results. In Scotland the same course has been frequently adopted, thus on the Don in Aberdeenshire, a dyke of the mill-lade adjacent to one of the large paper mills there had long been notorious as an obstruction, and during a recent close season, as Inspector W. L. Calderwood reported (Scottish Fishery Board Report, part II., 1898) the salmon were netted out of the pool below, and conveyed in the city water carts of Aberdeen to a point in the river some distance above.' The sportsmen of Dunnville, Ontario, for several years paid the local fishermen on the Grand River to save quantities of live fish, chiefly pickerel or doré, which could not reach their gravel spawning beds up the river, because of the erection of a large dam, in which an ineffective fish-pass had been placed. The fish-pass, as a rule, was found to be dry, but the netting of fish below the dam, and replacing them alive in the waters above, were found to prove most beneficial to the fish-supply in the river. Such expedients show how urgent is the need of an inexpensive fish-way which can be relied upon to accomplish its object. They also show how ineffective and disappointing are the results of most of the fish-ways in general use.

*Requisites of a Fish-way.*—Inventors of fish-ways have too often ignored points of vital importance to success. These points are many, and some are more important than others; but as authorities have differed as to their relative importance, I venture to summarize them.



(1.) The lower opening or entrance must be readily accessible. If possible it should be at the base of the dam where the deepest water occurs and where the fish will easily find it.

(2.) The gradient or slope must not retard the ascent of the fish which the fish-way aims to assist. It must be as gradual an ascent as possible, while creating sufficient current.

(3.) The flow of water through the fish-way must be ample, but not too impetuous to keep back the weaker species of fish or force them back.

(4.) The outflow should be sufficiently marked to attract the fish and guide them to the entrance. As Mr. Atkins aptly says: 'The fish must be invited to enter.' Active fish like the salmon and trout naturally make for swift water, and appear to enjoy the exertion of forcing their way through rapid currents.

(5.) A sufficient depth of water in the shape of a pool is necessary at the lower entrance. Many fish-ways fail on account of the shallowness of the water near the outlet.

(6.) Light must be admitted so that the fish-way is not a dark closed chamber or tunnel. A dark closed fishway will deter fish from entering it.

(7.) The bottom of the pool and the flow of the lower portion of the fish-way, especially near the outflow, must be rough, uneven and dark and as Col. Marshall McDonald said, ought to resemble the bed of the stream in the neighbourhood, in some degree at any rate.

(8.) The swift outflow of water must, if possible, be directly down stream, not a cross-current, as fish preferably go direct up stream, and may be deterred or even driven aside by a current from the fish-pass, if direct across their usual course.

(9.) Protection against ice, trunks of trees, high freshets, etc., must be provided, especially at the upper end. Hence projecting buttresses, or stout piles, are often so placed as to protect the upper opening or intake, and shield the fish-way from injury.

(10.) A fish-way sunk in the dam, and not unduly projecting from the general surface, is desirable, otherwise it runs great risk of damage, and may seriously weaken the dam.

(11.) The internal arrangements must be as simple as possible, otherwise the fish-way will be choked with gravel, leaves, twigs and other rubbish, and will with difficulty be kept clear. Complicated chambers, and partitions readily silt up, and sediment lodges in the angles, which it is difficult to clear away.

(12.) Its location must be directly in the track usually followed by the migrating schools. If to the right or left of the dam, it must be on the side of the river which reliable observations for many seasons have shown to be chosen, as a rule by the ascending fish.

(13.) All the water necessary should, if possible, be saved, by diverting the surplus water only, where the stream or river is used for lumber power purposes.

Other features have been insisted upon by various experts as equally essential as the foregoing. Thus the late Col. Marshall McDonald insisted that the route to be travelled by the fish, after entering the fish-way, should be short and direct. He also held that the flow of the fish-pass should imitate the bed of the stream. It has also been urged that the fish-way should provide a predominant current in order to attract the fish. Many of these subsidiary conditions are not essential, and some of them are not, indeed, possible. Thus a fish-way erected to provide a passage over violent falls cannot possibly furnish an outflow of water surpassing the falls; but fish after attempting the fall repeatedly, in vain, will be induced to enter the more moderate current of the fish-way. Such points may, in my opinion be neglected, if the other conditions enumerated be fulfilled. A few words upon these conditions, vitally essential to success, appears desirable. Concerning the entrance or lower opening, it should be so located as to be missed by the fish with difficulty. Frequently it is so situated that the fish miss it most easily, indeed, in many cases it is placed quite away from the route usually followed by the fish, and may be so far below the face of the obstruction that they swim past it, and collect in a crowd at the foot of the dam. In his well-known work on 'Fish Culture' (p. 259), Mr. Francis Francis gives an instance of this fault in the ladder at Upper Ballisodare Fall, Ireland. The lower end, he

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states, was brought 'too far down, so that the running fish missed it.' Later by the construction of an elbow, so to speak, it was turned so as to bring it close to the foot of the fall, and Lord Enniskillen recorded that after this change he saw on December 9 a large number of fish at the upper step jumping together, having completed the ascent of the steps of the fish-ladder. The local inspector during the same season saw 267 salmon use the pass in one hour. It was not without reason that His Majesty's Inspector of Fisheries for England and Wales, maintained in a report some years ago that 'where the foot of a pass projects beyond the base of the weir, fish almost universally run past it, and jump at the wrong place.' It is therefore a good plan on small rivers to run a barrier or subsidiary dam across the whole width of the stream, and thus to form one or more large pools of which the fish must necessarily avail themselves.

In all fish-passes there are certain requisites without which complete success cannot be expected. (1.) The foot of the pass should be at the place where the fish naturally run up, and should not project beyond the base line of the obstruction. Where this is impossible, it should at any rate be directed towards this place, so that its current may reach it, and be felt there. (2.) It should have a predominant current running through it to attract the fish. How otherwise are they to know of its existence? (3.) The gradient should be moderate. (4.) The force of the stream through it, if at all violent, should be broken by stops, bends, or other obstacles. Occasionally a flood guard may be useful, but in most such cases, the result would be better obtained by a more careful construction of the pass itself. (5.) The pools should be sufficiently deep and wide to afford rest and shelter to the fish; and should be long enough to admit of his acquiring impetus to surmount the stop above. When the pools are too short, the water from one stop breaks in flood time on the next, and no fish can ascend.

A pass sunk in a weir is usually more efficient than one placed upon it. The determination of the proper gradient or slope is a matter which had caused much discussion, and expert authorities are still far from unanimous in their views. No doubt the more gradual the incline the greater the variety of fish, including the weaker and less vigorous kinds, which will use it. The salmonidae can make headway against a powerful down-flow, and are, indeed, incited to work up swift water when they feel the force of a rushing current. But on general grounds it is advisable to arrange for as low a gradient as possible, when erecting a fish-way. The highest ratio of inclination specified by any existing law is that contained in the Scottish Salmon Fisheries Act, 1868, 31-32 Vic., cap. 123, where a gradient of 1 in 5 is named as the maximum. 'The inclination shall in no case be steeper than five horizontal to one perpendicular,' says the Act, 'but when practicable shall be seven or eight horizontal to one perpendicular.' Most authorities favour a much lower inclination. In the 11th Report of the Scottish Fishery Board, p. 12, the Inspector of Salmon Fisheries pointed out that the admirable objects aimed at by the Act, above-mentioned, had not been attained largely if not solely from the fact that the gradient specified is unsuitable. He said: 'The provisions regulating the construction of fish-passes have not, however, effected this end, as it has been found by experience that fish cannot ascend them when placed over a fall of any height at a gradient so steep as the maximum permitted by Schedule G, and that they do not ascend them even at the lesser gradient at all seasons of the year. This appears to be the case, not only in the autumn, when females, heavy with spawn, are less active, but also in the early spring. I was informed by the water-bailiffs on several rivers that fish would not pass the artificial obstructions in the early months of the year, even though the water-level was suitable. Similar information was also given me with regard to the natural falls on the rivers Helmsdale and Shin in Sutherlandshire, and Orchy on the West Coast. They gave as a reason the low temperature of the water in the rivers at that season of the year. This opinion appears very general, not only in Scotland, but in other countries.'

Some early regulations in the maritime provinces also named a gradient the same as the maximum ratio specified in the Scottish Act. Thus the Nova Scotia Statutes prior to Confederation specified an inclination of not more than 1 in 7. A far lower gradient is generally favoured in England 1 foot in 12 to 16 feet is common, especially in salmon and trout rivers in the north. Thus to surmount a 10 foot dam the fish have to traverse 1,400 feet, or a distance of forty to fifty times the vertical height of the

obstruction. At Hadley Falls, State of Connecticut, the fish must traverse a distance 1,500 feet to get over the dam-obstruction there which is 29 feet high. The momentum of the water is so lessened that some fish, as experience has shown, find no inducement to mount the fish-way. The shad, for example, while incited to rush up a rapid stream of water, are said not to use, in any numbers, the fish-pass erected at Holyoke dam (Connecticut) because the water has too little momentum. The pass, it may be added, is 440 feet long, for a fall 30 feet high. It is only by practical tests that a correct conclusion can be reached, and the very successful salmon fish-way at Ballisodare in Ireland, to which I have already adverted, shows that a gradient of 1 in 13 is not only sufficiently easy, but, with a good water supply, gives the down flow sufficient momentum to incite the fish to enter and ascend.

Of great importance is a strong outflow. The higher and more valuable kinds of fish make at once for a noisy rushing current; but, having once gained entrance, places of rest and shelter must be provided. A strong current fishes pass through with a rush; but they, as a rule, then look for an eddy or quieter water in which to rest, before continuing the ascent. The water must not rush in an unchecked downward stream, but by means of projections or compartments, or even irregularities on the bottom, must provide resting places here and there. Some fish have been found dead in fish-passes, owing, doubtless, to the swiftness of the downflows which tired them and dashed them in their weak condition against the side-walls or projecting compartments. Dr. J. B. Gilpin stated in a paper published in 1865, that he had it on the reliable authority of Mr. Lewis Kirby that trout are able to rush up perpendicular falls or sheets of water at least 6 feet high, and he even granted that gaspereaux do the same by the wriggling or muscular motions of the tail, not as so often asserted of the latter fish, by the serrated ventral surface or projecting scales of the under side of the body. A word of explanation seems to be called for regarding the objection to a clean or white coloured floor for fish-ways. Amongst the angling fraternity it has passed into a proverb that a white bottom frightens fish, and the sportsmen and net fishermen of Nova Scotia not long ago urged that the removal of sea-weed from the inshore rocks near the mouths of salmon rivers had probably much to do with the decrease in the salmon supply. The lighter coloured ground, it was argued, turned the salmon away; and they were diverted to other shores where they entered other rivers more or less distant. The English salmon commissioners, in 1860, referred to this point, and held that fixed fishing stands were an injury not only because they destroyed numbers of fish, but scared or drove them to sea. In all old legal enactments the deterrent or frightening effects of such fixtures or 'white objects' was regarded as equally to be condemned as apparatus for capturing salmon. 'If,' says Russell in his famous work on the salmon, 'objects in an estuary, striking merely the eye of a salmon, frighten him back to sea, a similar effect is more than likely to follow from his running against miles of posts and nets whenever he tries to take his natural course along the coast to the river.' Sir Herbert Maxwell, in his evidence before the Royal Commission on Salmon Fisheries (1900) referred to the serious damage to salmon rivers by shore and estuary nets. 'The nets,' he said, 'have been the cause of a greater destruction of salmon, as they have intercepted the run of salmon into the rivers;' but there is also a prevalent opinion that, in addition to that, the numerous nets along the coast divert the runs, and may turn them quite away from their usual route. The further point to which I have above called attention, viz.: the securing of a sufficiently ample supply of water, without too seriously interfering with ordinary requirements for mills and for industrial purposes, demands a further word or two, because very able authorities hold that if a fish-pass be properly devised it need not lessen the supply for water-power purposes. Early attention was called to this point by the well-known Yorkshire authority, Mr. J. H. Horsfall, who stated his views in an English angler's journal in 1864, as follows:—'The essential point is that the fish-ladder should be supplied with a flow of water in excess of that which runs over any other portion of the weir equal to the width of the fish-ladder; for when migratory fish meet with any obstacle to their ascent up a river they are invariably attracted to the part where the stream is the strongest, as for instance up mill races, however far the mouth of the race may be from the foot of the weir.'

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'The great difficulty is to obtain this necessary excess of water for a fish-ladder without damaging the milling power, but as such injury can only occur when a river is low and when migratory fish do not "run," no fish-ladder need at such times have any water supply. When, however, the water in a river rises and fish do "run," any water diverted down a fish-ladder is merely the surplus which the miller does not want and cannot use.

'By the use of the water economizer (invented by Mr. Smith, Deanston, Scotland) all loss of "head water" to the miller can be avoided, and at any time when the river is in flood the necessary supply of water to the fish-ladder can be obtained.

'I believe by the use of this invention an efficient fish-ladder can be built, which shall not in the least damage the milling power.'

Of the large number of devices, known as fish-ways, fish-passes, and fish-ladders, not more than fifteen or sixteen embody principles of construction essentially differing from each other. The number of fish-ways devised by various inventors totals, according to my somewhat comprehensive inquiry, considerably over a hundred. Apart from minor details not affecting the main working principle of the fish way, there are, as I have said, about sixteen forms adopted and in use in various countries. Commencing with the simplest and least expensive, I propose to briefly glance at all these more important types, adding such notes, as to their effectiveness, as will indicate their general practical value.

(1). *The Diagonal*.—Perhaps the simplest fish-pass, both in principle and design is what is known as the diagonal. It is really a shelf of wood or iron, affixed diagonally across the front of the dam or other obstruction, providing a V-shaped channel carrying a stream of water from one side of the dam to the other, and pouring out a strong stream at the foot of the obstruction. The fish can enter at the lower end or outflow, and wriggle up the channel, or when jumping up the face of the dam they may fall back and be caught by the projecting diagonal, and will, as a rule, rush up the stream and work their way over the crest of the dam at the upper end of the channel. The diagonal has been successfully adopted in Scotland, and is adapted to many dam obstructions.

(1). *The Step-Ladder*.—Almost as simple as the 'diagonal' is the step-ladder, which may be of wood or other material, or simply hollowed out of the rock at the side. It consists of a series of low ridges on an inclined plane, allowing the water to descend in a continuous stream, broken into a succession of small falls, each fall a few inches or it may be foot or more in height. Frank Buckland said that for salmon, each step (or fall) should be eighteen inches high, and the angle or gradient of the whole series should be one foot in five feet, or better still, one foot in six or seven feet. He said that such passes were frequently, too steep, and useless on that account.

The late Captain J. Hunter Duvar, a former Dominion fishery inspector, and a man of remarkable ability, erected, on certain trout rivers in Prince Edward Island, fish-ways of the simple step-ladder description, which are said to have been a marked success. 'I have endeavoured,' he reported in 1881, 'to design a fish-way of the simplest structure, and at the least possible cost, to suit our little rivers, and the small money value of most of our mills. The features sought were that it could be cheaply built without other labour than that of the ordinary mill-hands; economy of water; ease of current, with a little eddy in the backwater as may be, and such a rush at the outlet as will guide the fish into the way. The design has answered expectations. A simple gradation of the bulkheads to each other on an inclined plane of one in ten, even without cross-checks, produces an easy flow, while the width of four feet with ten inches depth and twelve to sixteen-inch openings, expends no unnecessary waste of water. Four of these were permanently opened this year, having been held over since 1880 on account of the famine of water in that year. Unfortunately, the best of the ladders, that of Messrs. McDonald and McKenzie, Montague River, King's County, built even better than the specification, was carried away, together with the mill-dam, by the bursting of an upper dam. The way answered its destined purpose fully while it stood, and will be rebuilt. Trout, in quantity, have been observed passing up the ladder in Trout river, lot 10, Prince county, in which stream salmon fry were last year deposited. Of the ladder at Keith's Mills, on Brown's creek, a branch

of the Montague, Warden Reilly writes :—‘ Since the channel was deepened I have seen as many as thirty-five large trout in the fish-way at once. The fish are going up by the hundred, and yesterday (9th November) I saw a few salmon making their way up. I have no doubt they are up the fish-way before now.’

When the matter of fishways was occupying prominently the attention of the Government of Nova Scotia, forty years ago Captain de Winton sent a model of what is described, in a report published at the time (1867), as the Government ladder used in England. Its measurements were width 5 feet with cross-compartments  $5\frac{1}{2}$  feet apart, leaving an open space at one side 9 inches wide. The upper and lower entrances were 12 inches wide and each gradually widened outward, like the door of a fortress. The fish-way was of solid masonry with a triangular buttress projecting on each side to break the ice in winter. It may be pointed out that two years earlier a Nova Scotia Act had been passed (chap. 35, May 2, 1865) providing that in every dam a fish ladder should be built having a slope of 1 in 7, with an upper opening 3 ft. wide, and so arranged as to always have 1 ft. of water running out of the lower opening. Every 6 feet a cross-piece 2 ft. high was to be placed at right angles, leaving on alternate sides a 12-inch opening, so that the down current flowed from side to side. Such fishways also called water-gates and stops (see N.S. statutes, cap. 95) are not to be closed when fish are ascending or descending. Buckland held that each pool should have walls not less than 18 in. high, and the cross-pieces or steps should be of the same height. Each pool should be, he thought, about 4 feet square. Col. Worrall, in the pass on the Susquehanna River built in 1866, made the steps 6 in. high, while each trough was 10 feet long and 2 feet deep. It was 200 ft. long, and supported on substantial crib-work.

Mr. Wm. J. Ffennell, H. M. Inspector of Fisheries in England, had a model fixed up in his office at Whitehall, London, 40 years ago and it was seen in operation by a great many interested spectators one of whom wrote, after watching small minnows ascend the pass, ‘ certainly the fish, for their part, show no disinclination to avail themselves of the artificial assistance offered them. They move anxiously to and fro with their noses up stream, and the moment the “ fresh ” comes (i. e. the water is turned on) up they go, racing and jumping like a school of boys turned out for the half holiday.’

The principal dimensions of the ladder on Mr. Ffennell’s model are—

Total length from apex to base, including thickness of walls	38 feet.
Total width	9 “
Length of water course inside walls	32 “
Width of	5 “
Length of space between steps of ladder, about	$5\frac{1}{2}$ “
Width of side opening in step and at bottom	9 inches.
Width of central opening in top step and at bottom	12 “

The slope of this ladder is 1 in 5 ; 1 in 7 or 8 is, however, preferable where circumstances admit of it ; and 1 in 4 is the maximum slope which cannot be passed with safety in any ladder. This is a point of vital importance and too much stress cannot be laid upon it. There are many rivers on which this simple and economical form of fish-way is the best that can be adopted, especially when the obstruction is not very high. On the River Cauld at Dumfries, Scotland, I have seen the ‘ pool and jump ’ pass which was very favourably reported on by Mr. Archd. Young, in his report as Fisheries Inspector (Tenth Annual Report, 8 col., Fish. Board, Pt. II, p. 21) and I can testify to its success in facilitating the ascent of fish.

(3.) The ‘ stop ’ or ‘ pool and fall ’ pass is an advance on the simple ladder. It provides, in the interval between each step a box or pool where the fish can rest before mounting the next step. The pool may be hollowed in the rock, or built of wood or masonry, each step sloping on the lower side and perpendicular on the upper side, and in some cases pierced, a few inches below the crest, by a small tunnel or drain permitting a flow of water to keep the pools filled when there is not enough to form a series of good falls. Though not designed to do so, schools of small fry may no doubt use the tunnel or drain and pass from pool to pool, down or up the fish-way at any season of the year. whereas in the ‘ diagonal ’ and the ‘ step-ladder ’ the flow is practically continuous, in the ‘ stop ’ fish-way it is discontinuous and broken into a succession of pools.

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(4.) The 'semi-stop' fish-way is one of the oldest and simplest types adopted, and was the pattern generally followed in Britain in former years. It consists of an open channel down which the water flows, but is interrupted on the right and left alternately, by perpendicular partitions, projecting from each side at right angles. The stream is continuous, but is thrown from side to side as it strikes the partitions. The partitions extend only about half-way across the channel, imparting to the current a spiral course. In the angle behind each 'semi-stop' is an eddy or resting place for the fish. It is one of the commonest, cheapest, and, for moderate gradients, one of the most effective of the old forms of fishway.

(5.) The elbow semi-stop fish-way, commonly called the 'Bracket' fishpass consists, like the last, of alternate partitions projecting from the walls at right angles, but provided at the outer ends of each partition with an extension or elbow turned at right angles to it. This arrangement still further impedes, and twists and turns the current, which is a continuous one. The water winds through the L shaped compartments like a chain of letters 'S'; each alternate 'S' being reversed.

(6.) The T-semi-stop fish-way is practically the bracket fish-pass with T-shaped, not L-shaped cross partitions. It is designed to afford still better resting places, by increasing the amount of eddy-water in the pass. Many dams on this continent have been provided with this pass, one specially well known being that in the Holyoke dam, Connecticut River. In order to induce the shad to use it, the builders adopted an extremely low gradient, viz., 1 foot in 50 feet, so that the pass is 440 feet in length, to surmount a dam 30 feet high. It is officially reported that the shad have not apparently made use of that pass.

(7.) The upslant semi-stop fish-way is commonly known on this continent as 'Foster's Pass,' and is really a modification of the simple semi-stop pattern, but the partitions are directed upwards at an angle. Several dams in Canada have been provided with this form of 'Foster' pass, and it is commonly stated to succeed if the gradient be not too steep. Thus, at the London Waterworks dam, Ontario, a fish pass of this kind is said to be used by ascending pike, perch or doré. The inventor devised a flood-gate at the top, with movable perpendicular boards, each of which can be lifted separately, thus reducing or enlarging the upper entrance, and varying the volume of water as is deemed desirable.

(8.) A further type of fish-way combines the feature of the last and of the simple 'Semi-Stop.' Each partition projecting at a right angle being followed by an upslant partition on the opposite side. Thus the water, in descending, meets the rectangular projection sweeps round it, and flows into the V-shaped space former on the opposite side by the upslant partition, where it is reversed and is forced upward to flow round the partition, after which it sweeps down to meet the next rectangular partition. Each downward sweep of the current alternates with the reversed flow in the angle of the upslant partition, which is supposed to afford a resting place for the fish. I have not seen this arrangement in operation, but it does not appear to provide any still water suitable for resting places such as are absolutely necessary for ascending fish.

(9.) The 'Lowell' fish-way, which was first built at Lowell in Massachusetts, turns and impedes the current, i.e., lessens its momentum, by an arrangement of tanks or boxes descending in a double series, side by side. The water entering the first box in the right series, pours to the left into the first box of the left series, from which it empties forward into the second box of the left series, and out of this second box empties to the right into the second box of the right series, whence it flows forward into the third box of the right series and then pours to the left into the third box of the left series. Thus the course of the water flowing down this circuitous route, follows roughly the outline of the letter C, succeeded by the outline of a C reversed, and so on alternately. Each tank is 12 feet square, and 2 feet deep, while there is one foot fall from one tank to the next. Mr. Theodore Lyman (Mass. Fish Commission) says that the rush of water is so reduced, and the speed and momentum so modified, that a floating body was found to descend at the rate of less than 2 miles an hour, hence any anadromous fish, even the weakest, could readily pass up.

(10.) The 'Channel and Box' fish-way, invented forty years ago in Norway by Mr. Hetting, has been reported a success as imitating the natural passage (the pools and

falls) ascended by salmon. It has been claimed to be the cheapest of fish-ways and consists of a succession of long shallow troughs or channels, alternating with shorter capacious deep boxes. Each trough is 12 feet x 3 feet x 3 feet deep, while each box is 8 feet x 6 feet x 5 feet deep. The highest channel receiving the supply of water empties into the upper left corner of the first deep trough, out of which trough the water pours through a notch at the right bottom corner, and is carried by the next channel to the second deep trough, which receives the water at its right top corner, but empties at its left bottom corner. Thus the water loses much of its momentum at each deep box or pool, by being compelled to flow diagonally to the opposite lower corner. The incoming and outgoing streams are not directly opposite to each other at each level of the series, but being as nearly as possible at opposite corners, the force of the stream is broken and on account of the depth and body of still water in each box or pool, the force of the descending stream is weakened. The inventor considered that a gradient of 3 feet in 12 feet (1 in 4) is right. Freshets and ice would be the chief danger to this fish-way.

(11.) The 'Amoskeag' fish-way, an elaborated form of the 'Brackett' fish-way, is stated to have been successful in facilitating the ascent of shad. In this pass the water runs transversely in one direction (say right to left) through several chambers and then in an opposite transverse direction (say left to right) through several chambers. There are five of these series of transverse chambers, the flow of all having a sufficient gradient to bring the lower exit nearly level with the spring level of the river below. The entire fish-way is of masonry and is inclosed in a wall of triangular form, the apex being directed down stream. Its total length is 56 feet; its widest (upper) part being 28 feet, and diminishing to 14 feet at the bottom, where an outlet less than 3 feet across admits the ascending fish. The upper transverse series consists of five L-shaped chambers, the second series of four, the third of three and the fourth of two, while the fifth and sixth series each consists of one chamber. All are about four feet wide, excepting three, which are 6 feet across. It is difficult to describe the exact arrangement of these long narrow L-shaped chambers as they are not reversed to each other in regular alternation, but the L-shape is reversed top and bottom to the next L shape, as well as reversed right and left, just as a row of boys might be alternated on their heads, as well as back and front alternately. This pass was tried at the Amoskeag Falls on the Merrimac River.

(12.) The 'Rogers' fish-way adopts the 'elbow' partition system of the fish-ways described above and great success has been claimed for it, indeed, it has been one of the most widely adopted forms on this continent, and established for itself quite a reputation. Mr. W. H. Rogers was one of the Dominion Inspectors of Fisheries in Nova Scotia, and arrived at his design chiefly by a study of types of fish-ways in use in Britain. Its form is that of an oblong box, with an inclined floor upon which the 'up-slant' stops project at an angle of 45° each with a terminal elbow. Seen from above, the stops form a zig-zag arrangement as the terminal end of one stop almost reaches the origin or fixed end of the opposite stop, leaving a narrow space by which the fish pass from one angular pocket or chamber to the next. The height of the stops is 4 feet and the passage or space referred to is 14 inches, hence the rush of water from one chamber to the next is very strong; but an eddy is formed behind each stop, and the fish can also find a resting place in the angle of each compartment. The opening at the upper end of the ladder provided for a rise and fall of the water above of three feet; but there are side gate at different heights in the fish-way which can be opened when the upper water lowers below that limit. The gates in the sides of the fish-way when the door is raised will allow of the exit of the ascending fish at any height of the dam. The three principal features in the Rogers improved fish-pass, distinguishing it from previous passes, is the fact that it is placed above the dam, resting against the pickets on the upper face of the dam, and inserted in an opening of 5 feet wide by 5 feet high so that its lower entrance is flush with the lower face of the dam, and the fish can thus more readily find it. This position of the lower entrance was, at the time Mr. Rogers' invention, a novel feature. The series of side-entrances, at different levels, was also a new and important feature. One of the ablest authorities on fish-ways in this continent, Mr. Robert Hockin, a Dominion Inspector of Fisheries in Nova Scotia remarked on the Rogers' fish-pass as follows:—

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The old form was generally built from the crest of the dam and discharged about 60 feet down stream, and, as fish instinctively follow the main stream, they seldom were known to ascend this form, having once passed the outlet they played in the pool below the dam, vainly looking for some way to ascend.

'To meet this, the Roger fish-way was constructed in the pond above the dam with the discharge immediately at the dam. This was an improvement, and when kept free from debris and supplied with sufficient water, fish could ascend, but after I had examined a number of these structures and found that owing to their great length a dam of 10 feet, requiring a fish-way at least 70 feet long; that the ice had in some cases distorted them or the freshets had torn out the brackets, or, on account of the great surface exposed to a considerable pressure, the leakage was frequently so considerable as not only to destroy their usefulness but also to injure the water power of the dam; and unless they had frequent attendance by some interested person, sticks and other debris rendered them impassable, or else the proper gate for the admission of the water was not opened,—I endeavoured by a number of experiments to find a form of fish-way better adapted for the purpose, and succeeded in obtaining a form so simple and withal so efficient that the wonder is that it was left for the writer to find it.'

It may be pointed out that the cost of Rogers' fish-pass is much below that of most passes, excepting the very simplest; such as the inclined ladder pattern. Mr. Rogers held that no matter how wide a river might be one ladder on his pattern would allow all the fish ascending to pass up as readily as if no dam existed, and indeed said so almost in those precise words, in a report published in 1880, (Fisheries Department, Thirteenth Annual Report). He did, however, add to his original fish-way plan a more elaborate scheme, of which he published two figures, based, as he stated, on the plan followed at the Holyoke dam, Massachusetts, U. S. A. In the said diagrams a Rogers' fish-way is shown on both sides of the river below the main dam, each fish-way passing parallel to a canal supplying a mill on each side. Some distance below the main dam, an auxiliary dam is built, the lower face of which passes transversely from the lower entrance of one fish-way to the lower entrance of the other fish-way. Or rather this auxiliary dam ends a short distance from the latter fish-way, leaving a passage for the out-flow of surplus water from the main dam, but across this passage a wire fence is recommended to turn the fish into the fish-way, otherwise they might find their way inside the lower auxiliary dam, and congregate at the foot of the main dam where they would be obstructed. In his drawing it should be stated that Mr. Rogers showed by dotted lines, the ordinary position in the middle of the main dam, of the fish-way; but with his arrangement of the auxiliary dam, and the provision of two fish-ways, one at each side, the construction of a third fish-way would of course be a serious matter, and would add considerably to a cost of unusual magnitude without it.

(13.) The 'Worrall' fishway utilized an entirely different principle in the endeavour to minimize the speed and momentum of the descending current. Colonel Worrall conceived that if the direct down-rush of water could be opposed by an upward flow, or by subsidiary lateral streams of water the momentum of the main stream could so be counteracted. Accordingly he selected a very long dam 6 feet high which formed an impassable barrier for shad. About  $\frac{1}{4}$  of a mile from one shore he had a section of the dam, 40 feet long, cut away, and a coffer dam erected above, at the point, to keep off the water. In this opening a new sub-dam was erected, so that its comb or highest elevation would about equal the level of the water below the principal dam when the fish are running (a little over three feet say). The lower slope of this sub-dam was placed at an inclination of one in fifteen, and the sides of the aperture in the main dam were dentated or framed in a series of offsets, so as to promote the formation of eddies in the current passing over the sub-dam.

'When the fish are running then, in the spring, the water in the aperture will be under the influence of gravity in opposite directions. The lower water will try to attain its level, the top of the subdam and the upper water rushing through the aperture will meet and certainly drive it back, but with a force considerably impeded by the cushion, so to speak, of lower water.

'The fish will be nosing along the foot of the main dam, as is their wont, and finding its passage open, agitated though it be by these contending currents, they will



endeavour to pass up, and let us hope they will succeed. But should they fail in the first few trials, there are the recesses at the sides where the eddies are sure to be formed, and where they may gather strength for a renewal of the trial. I am informed, by persons in the neighbourhood of Columbia, who have seen this aperture of ours with the water running through it, that there are many passages in the Conewago rapids below, which are much more difficult of ascent than this is; and which of course, the fish must easily pass, or they would not be caught, as they now are caught, at the base of the Columbia dam, their next obstacle.

The 'McDonald' fish-way in contrast to the 'Rogers' and earlier types, is an elaborate and costly structure. Theoretically it is perfect, but in some notable cases it has lamentably failed. It is a device to counteract the force of gravity by the force of gravity. Thus a body of water flowing into a basin is carried by its momentum to a height less than the height of its original descent. As it is carried, or ascends, its momentum lessens and if the lip of the basin below enough, the water by gravity will drop over, having lost practically all its force or momentum. The late Col. McDonald, in an interesting report in the U. S. Fish Comm. Report, 1884, p. 47, fully explains his experiment, and it must suffice to say that a body of water falling from A to B will rush up or be forced up to a height C, when it will fall to D. But the height B C is much lower than the height A B, and the difference A C between them indicates the loss of momentum. Applying this to a fishway he arranged a series of chambers, like V-shaped elbows of wood and iron, one below the other on each side of a central channel. These opened at each end of the V into the mid-channel. The water rushing into the upper entrance of the fish-pass. Passed into the entrance (A) of the first V-chamber, and around the elbow (B) to the exit (C) or other end of the V, ascending all the time (from B to C) and losing speed and momentum so as to pour gently and without rush a force into the mid-channel. As this was repeated all the way down the series of V-shaped chambers, which from top to bottom of the pass empties their gentle outflow into the mid-channel, its down flow had the character of a comparatively quiet descending stream, up which even the least vigorous fish, it might readily be supposed, would pass without great effort. The course of the water in the McDonald pass is the figure geometrically of a spiral, the continuous curves in which are not in one plane, but follow in a linear series whose successive planes are almost vertical to the descending linear direction of the mid-current. Of course the lateral arrangements are securely guarded from the main mid-channel, to which alone the fish have access. The inventor termed the lateral passages 'buckets' and described their operation as follows,—'the water in its downflow is received by the straight wooden buckets, and the curved iron buckets direct this water backward and up the stream, thus affording comparatively quiet water, which it supplies to the main mid-channel of the fish-pass.'

(15.) The 'Hall' fish-way invented by Mr. Hall of Renton, Ont., is based on the principle of admitting a large quantity of water into a square box, in which it is held back by a partition and can escape only by a small exit. Both openings, the intake and outlet contrary to most fish-ways, are on the same, upper, side of the box, which is placed at the lower side of and a short space from the dam, and admits ascending fish to the upper side of the dam by a channel, forming a bridge over the space separating the fish-pass box and the dam. The box is divided by an upright partition into a large chamber and a small narrow chamber parallel to it; a long slit or narrow opening admitting from one to the other. A false flow crosses the large chamber on a level with the height of the dam, and the flow of the narrow chamber has an inclined flow up which the fish can ascend by entering the small lower opening out of which the water pours. A fish passing up to the lower face of the dam, and 'nosing' along the obstruction, would, the inventor claims, turn round on feeling the out rush of water from the small exit of the fish-way behind it. Forcing its way into this entrance, it would work up the swift current pouring down the narrow chamber, and at the top of the incline would turn to the right, through the long narrow slit or opening, and turning again to the right up the broad stream pouring through the large chamber, would cross the bridge channel leading through the crest of the dam and reach the upper waters. It is claimed that this fish-pass has been a success, though for valuable fish, like, salmon, trout, shad, &c., it has very unfavourable features. Thus it is entirely closed and is therefore dark and uninviting; its entrance opens in a direction opposite to that up

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which the fish are moving, and as the inflow of water at the large entrance is at least five-fold that of the small lower exit into which the fish pass, the outflow will be so strong that only the most powerful fish could force their way through. Ice, &c., would almost certainly carry such a fish-pass bodily away.

(16.) The 'Cail' fish-way combines the fall and pool fish-way and the deep compartment and aperture system. It may be made of wood, or of masonry or iron, and may follow a straight line or be built in angles and curves. The straight form may be described as an oblong box descending from the crest of the dam with a gradient of not more than 1 vertical to 4 horizontal. It provides a series of still-water compartments with cross bulkheads passing completely across at an angle of about 70°, this very oblique angle more readily clearing the compartments of sand, gravel and rubbish, as it has a tendency to collect at the side near the aperture in each bulkhead. As the water entering the large opening at the top pours over each bulkhead in the form of a small fall, as well as through each aperture, the fish have opportunity to leap over or to pass through each bulkhead, the apertures decreasing progressively from the upper to the lower ones. The lower outlet is below low-water level, and while it is claimed that the water in the compartments is relatively quiet, the velocity through the apertures may be 10 feet per second, the hydraulic head between two successive compartments being arranged to obtain a current velocity not exceeding that rate. The fish-pass is not completely roofed over, and there is ample space between the cross-pieces for the admission of light, an important point, as well as for inspecting it and cleaning away débris. At the intake, which is not less than 12 inches below the crest of the dam, fenders, grates, and other means of protection from ice, &c., are provided. The 'Cail' fish-way, it is claimed, is one of the cheapest and most easily constructed of any design now in use, but it does not appear to be adapted to a great many cases of obstructions existing in Canada. Its upper entrance is at the crest of the dam and its outlet must be carried some distance below, a very serious objection. Its erection would involve the reconstruction of most dams, although the inventor holds that it is applicable to various dams and to natural falls. It is difficult to see how it can be kept free from débris, which will accumulate in the compartments and fill up the apertures. Many competent authorities regard it as a very superior invention, but its features are somewhat complicated.

(17.) The 'Bower' fish-way designed by Mr. John Bower, Shelburne, Nova Scotia, resembles the Cail pattern in many ways. Thus it combines the fall and pool principle as well as the perforated 'stop' or partition but both do not work simultaneously, the flow of each compartment is not horizontal, but inclines upward, and is highest at the lower side, allowing space below in the compartment for the perforation or door in each partition. The door of each compartment can be closed by raising a gate and the water then flows over into the next compartment as a fall; but the gate on being raised shuts off the fall, and the water must pass through the aperture (really below the floor), hence the water must then pour into the compartment by a side entrance, which is provided in the lateral wall of each compartment below the inclined floor. By raising any of the gates in the partitions and closing those in the partitions below, the proper side gate automatically comes into use and thus the fish-way adapts itself to the different heights of the water in the dam. One of the chief merits, which the inventor claims, is this adaptation to high and low states of the river—a feature also seen in the Rogers' fish-way, and provided for by similar side gates, which in Rogers' fish-pass are shut off, or opened, by a vertical slide moving up and down guide strips; but in the Bower's pass the side doors are never closed, the closing or opening of the doors in the middle of the cross-partitions allowing or preventing the entrance of a current of water. If all the vertical sliding doors are closed, the fish-way does not work, and when fish are not running this can be done, and the water saved. The fish pass is a long box horizontally placed on the bed of the river, and its lower end passes through, or is along side, the dam so that its exit on the bed of the stream, where the fish enter, is flush with the lower side of the dam.

The floor of each compartment is at a level higher than the one below, passing from the lower exit to the intake or highest entrance. Each compartment of course has a lower floor, viz.: the general horizontal bottom of the entire box or fish-way lying on the bed of the stream, excepting the lowest compartment the floor of which is practically

level with the bed of the stream. Crib-work buttresses filled with stones keep the pass in position and resist ice pressure, &c., otherwise the whole strain would be borne by the dam to which it is bolted at the point where it passes through the dam. It has been pointed out by an experienced expert that Mr. Bower's estimate of a rise of 1 foot in 4 feet would result in no depth of water at the crest of each fall, and dam 10 feet high would require a fish-pass no less than 40 feet long. The doors at the side reduce the strength of the structure, and on account of the uniform height of the fish-way the lower compartments would be very dark just where the fish are most readily deterred by a dark opening and chamber within. All fish-passes run the risk of being damaged and carried away by ice and freshets, but this danger especially threatens large structures like the Bower's pass, which are weakened by lateral openings. It has certain excellent features, and in some locations might prove well adapted for the purpose of facilitating the ascent of fish. The inventor claims the merit of cheapness, as in most dams its cost is estimated at not more than \$300, though it may be doubted if that low estimate would be realised in practice.

(18.) The 'Hockin' fish-way, invented by a well-known Dominion officer, who had devoted many years to the problem of devising an efficient fish-pass, is one of the most widely-known fish-ways in existence. It has many novel features, especially that which marked the earliest form of the fish-way, viz.: the intake not at the crest, but almost on a level with the bottom of the dam; and the further feature, viz., the outlet a lower entrance at the foot of the lower face of the dam. A condensed account of the working and of the construction of the Hockin fish-way was given in the tenth Annual Report of the Fishery Board for Scotland (1891). In that report it is said:

'Many forms of fish-way have been devised to facilitate the ascent of running-fish, such as Mr. Cail's lock swimming pass in England, Colonel Macdonald and Mr. Brackett's fish-ways in the United States of America, and the fish-way of Mr. Rogers in Canada; all of which are clever and ingenious, and have been successfully applied in various parts of Europe and America. But, on the whole, the recent invention of Mr. Hockin seems, in some respects, superior to any of them. One special advantage of it is, the position of the orifice through which it is supplied with water. The supply can never fail so long as there is water in the dam—and this is a great point—as the orifice is far below the level of the water in the dam. Whether the orifice will not be liable to be choked up with the gravel which is brought down in floods by some of our rapid Highland rivers, is a point more difficult to determine. Most of the fish-ways in Scotland are supplied with water through a cut made in the crest of the dam; so that, whenever the water falls below the crest, the supply ceases, and the pass is useless.'

The following account by the inventor (Inspector Hockin) clearly indicates the many features of the fish-way:—Deciding that the great defect of fish-ways in use was from the fact of their being fed from the surface, and that it would be of great value if one could be obtained that was fed from beneath, I instituted a series of experiments last winter with this object in view, and succeeded in inventing a pass which is a simple solution of the difficulty. It may shortly be described as a hole in the bottom of the dam, with the velocity of the discharge so reduced that a fish may contend against the current, and swim into the pond above. It consists of a series of compartments, having approximately a level floor, with side walls, ends, and transverse partitions (every 4 feet of its length) from the bottom of the dam to above the water line; these compartments connected with one another, and with the pond above and the river below the dam, by submerged apertures approximately on the level and preferably in alignment for the passage of fish. The water in the several compartments will be lower, step by step, from inflow to outlet, and will flow out of the last aperture under a head of about 2 feet (it can be made less) and, therefore, with so little velocity that fish can swim into the first compartment and into the pond above. Here, then, is a fish-way which is not of very great length, 28 or 32 feet, sufficient for any average dam. It is built from the bottom of the pond up, so that ice cannot form under it nor raise it; and from its structure, with partitions every four feet, it is necessarily strong and compact. Freshets can make no torrents through these passes and tear them out. The apertures being submerged cannot be choked with debris, and they can be so far removed from the bottom as to obviate any danger from that source. What is perhaps most important is, that it

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adapts itself to the height of water in the dam; for, so long as there is water in the dam, the fish-way will be supplied. The importance of this will be recognized when it is remembered that a fishway has no friend in the mill-owner, and that the maintenance of the rights of free access to spawning grounds depends upon the vigilance of fishery officers. The velocity of discharge being so reduced, the loss of water does not materially affect the mill-owner.'

Economy of space and materials is a feature strongly urged by Inspector Hockin in favour of his type of fish-way. For a 10-foot dam, a fish-way of this pattern is about 24 feet in length.

The following description, extended from the late Mr. S. Wilmot's report (Fisheries Report, 1890, pp. 39-40) will further explain the working and dimensions of the Hockin fish-pass, and contains a favourable reference to its success, a success which has been repeatedly noted in various localities where the Hockin fish-pass has been erected. The quotation given in Mr. Wilmot's report after laying stress on the simplicity and apparent efficiency of the invention says: 'It is constructed of a series of successive compartments, formed by longitudinal side walls and subdivided transversely by partitions—(g) forming compartments (h) and provided with a floor (j). The partitions (g) have each an aperture (k) near or at the bottom, and preferably in line with one another, and with a like aperture (j) in the dam (a), so that all the water fed to the compartments will pass through the aperture in the dam into the first compartment and thence into the several compartments successively. The water from natural causes diminishing step by step in each of the compartments, and finally flowing out of the last compartment into the river below, under a head of 18 inches or 2 feet, and therefore with a velocity so reduced that fish can easily contend against it, swim into the compartment, and thence through the several compartments into the dam above. A fish-way built on this principle 28 feet long will overcome a head of water which would require a pass 80 or 90 feet, built on the incline plane principle, while the great length of the latter and the fact of its being near the surface renders it very liable to be destroyed by ice. A Hockin pass built inside of a dam, from the bottom upwards, does not present any hold for the ice. Again, incline plane passes, being fed from the surface, are liable to be choked with floating debris, and are subject to frequent changes in the height of water in the dam, requiring attention to open gates to suit the height. The Hockin pass being fed from under the surface, is not liable to be choked, and is always supplied with a sufficient quantity of water. As a matter of fact, it has been found that the quantity of water vented by this fish-way is so little that its loss is not felt by the mill-owner. The Department of Fisheries have caused several of these fish-ways to be built, the one in Cumminger's dam, Melrose, Guysboro, being the first or experimental pass. The fishery officer in charge, Thomas McKeen, says: 'I regard this as a perfect fish-way, almost equal to the natural stream.' One has been put in the dam at Tidnish, Cumberland county, known as Doyle's. The owner of the dam says the fish-way is a great success and has met with general approval. We have examined an excellent working model, and were struck with the simplicity and apparent efficiency of the invention.

The conclusion reached at the important Conference of Dominion Fishery Inspectors in 1891, held in Ottawa, is of great weight as the view of a body of practical men with unexcelled opportunities of judging of fish-way devices. The inspectors in a formal resolution said: 'This conference having examined the Hockin fish-way, believes it to be correct in principle, and recommends that it be fully tried.'—(Minutes of Conference, April 9, 1891). Various modifications have been made in the original details of the Hockin fish-way, but on the whole the invention has been favourably regarded, and Canada, in the United States, and other countries, a large number have been erected and operated. Some dams, however, did not allow of the insertion of this fish-way, and recently Inspector Hockin has perfected a different type to be next considered.

(19.) 'The Hockin sluice fish-way,' which consists of a long box, more or less open at the top, to admit light, and inclined to a gradient not greater than one in five. As it is adapted for being placed below the dam, the intake being at the crest of the dam, it may be divided into two, or even more parts, or arm, a spacious resting pool, or

landing, being provided where the lower portion of the fish-way descends in the opposite direction from the upper first portion, and bringing the outlet or lower entrance close to the foot of the dam. Every five feet a partition is placed, with a V-shaped notch cut out, the notches decreasing in size from the top end of the fish-way, where a screen is provided to keep out rubbish while allowing the fish to pass out under it. The partitions are upright, with the exception of the last, which leans outward (downward) at an angle of say  $55^{\circ}$ . The V-shaped notches are all in the centre line of the fish-way, and the lower end of the floor of the second arm of the fish-way is one foot below the level of the water at the foot of the dam, say in June, thus ensuring easy entrance at all other times of the year. The whole structure is strongly framed, bolted, and may be supported on cribwork filled with stones. In a fish-pass of this kind, built at Ship Harbour, N.S., chiefly to allow gaspereaux to ascend, the whole of the partitions are inclined at an angle of  $45^{\circ}$  downward, thus providing quiet water and an eddy at each side of the V-notch in every compartment. The notch increases in size from the lowest to the highest, as already stated, the object being to secure the flushing of each compartment, and avoiding the lodgement of silt, gravel, leaves, &c., as well as allowing heavy ice to slide over during the spring freshets. The object of the inventor, while, providing a straight and direct course for the ascending fish, is to impede the velocity of the current by the notched partitions. The whole structure is inclined, the gradient should be one in five, though in the case specified the builder had made the gradient one in three and a half feet, with a head of four feet. To reduce this head Inspector Hockin arranged that the water should be supplied by four heads of one foot each. On another Nova Scotia river, viz. Ingram river, a similar Hockin 'sluice' fish-way has proved a success, according to local parties. The fishery overseer there has seen gaspereaux actually in the fish-way, and schools of fish are seen above, which must have passed up the fish-way provided for them.

The 'Miles' fish-way patented by Mrs. Miles of St. John, while on the same principle as the original Hockin fish-way and admitting water at an intake almost on a level at the bottom of the dam through which it passes, yet dispenses with the complete partitions, and aims to reduce the momentum of the river current by internal stops, and by a special intake and exit arrangement, not easily described without figures. This fish-pass also has the merit of opening at the lower face of the dam, and of admitting light ample enough to attract the ascending fish. Suitable tests may show that this fish-way is admirably adapted to the conditions obtaining in many rivers.

#### CONCLUSION.

It is plain from the foregoing outline of the characteristic features of the more important types of existing fish-ways, that the requirements of the different rivers obstructed, are exceedingly varied. Practical experience has shown that the same principle cannot be applied to all cases, and that fish-ways, which may prove successful in a large number of instances attain success by local modifications which fit them to the special circumstances of each case. Only great experience and technical knowledge, not only of the physical conditions of the locality and stream, but of the habits of the fish it is desired to assist, can avail to decide the form of fish-way that should be adopted in particular cases of natural or artificial obstructions. The damage done to valuable rivers, by dams and other artificial obstructions cannot be estimated, while even rivers not so damaged may be vastly improved by the removal of natural obstructions, and the opening up, by this means, of extensive upper grounds adapted for spawning. The well known case of Ballisodare County Sligo, Ireland is one of the best illustrations of the benefits of a successful fish-pass.

I have already referred to the Ballisodare fish-ways before the erection of which not a single salmon was able to ascend the river, as the three obstructions were completely impassable. After the fish-ways were in position the salmon began to ascend and eleven years after, no less than 10,000 salmon were caught in the river in one year. A similar case is that of Galway salmon fishery which, by the removal of river obstructions by Mr. Ashworth, increased from less than 2,000 salmon in 1853 to over 20,000 fish ten years

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later. Examples might be multiplied ; but the importance of a clear and unobstructed means of access to their breeding grounds is so self evident, that the necessity of effective types of fish-passes needs no argument. I cannot conclude better than by repeating the statement I made in my special report in 1899 on, 'Water Pollutions' where I referred to the harm done by mill-dams, &c. and said it is vain to expect a restoration of the fishery resources, and the repeopling of depopulated waters, if the parent-fish are shut off and obstructed by mill-dams, canal locks, timber-refuse, log-jams, booms and fallen trees, or any obstacles by which they are prevented from reaching the spawning beds. If the spawning grounds be kept free from pollution and the deposition and fertilization of the eggs be accomplished ; and if moreover free and unobstructed access to these grounds be provided for the fish, and, above all, if over-fishing, excessive netting and destruction of the ascending fish be prevented, there need be little fear that our supplies of salmon and valuable migratory species will wholly fail.

## III

## THE HATCHING OF SHAD.

BY PROF. EDWARD E. PRINCE, COMMISSIONER OF FISHERIES, OTTAWA.

Some years ago, when a crisis in the valuable shad fisheries of Canada seemed to have been reached, I stated in an official report that the only practical remedy was the artificial fertilization and incubation of shad in some of our maritime fish-hatcheries. The minister, at the time, desired my recommendations, as the expert Dominion officer in connection with the fisheries, in regard to a suggested protective close season on the one hand, or to some restrictive measures in regard to the netting and capture of shad. I could not recommend any steps in these directions, which could be justified. To establish a close season would at one blow destroy the shad fishery in such a river as the St. John, New Brunswick, where the fish can only be taken in quantity and in fine marketable condition, when migrating up from the sea for the express purpose of spawning. Nor could regulations restricting the modes of capture be carried out, without interfering with other legitimate fishing operations. The large traps or weirs in St. John harbour, for instance, if so worked as not to take shad, would not take gaspereaux and various other fishes of market value. When I first visited and inspected those weirs in June, 1893, I found that shad and gaspereaux were being taken equally numerously, along with salmon and other fish, but the fishermen laid before me, as Commissioner of Fisheries, their complaint that the shad were not ascending the river in May and June in numbers at all comparable to those of former years. I felt very strongly that some protection appeared desirable, when the schools of parent shad came in from the sea in May and June in order to ascend to the upper reaches of the river, fifty or sixty miles up, where their chief spawning grounds were situated. The adoption of shad-hatching by artificial means in our hatcheries seemed to me the only feasible course. I favoured that course especially for four reasons, (1) abundance of spawn could, as a rule, be secured, (2) the period of hatching is very short, only two and a half to three days, (3) the success of shad culture had been clearly established in the United States, both on the Atlantic and Pacific coasts, (4) the fish grow quickly and reach maturity rapidly. No doubt official reports are not always conclusive, and the bare statement that so many millions of young fry were turned out from a fish culture establishment in a season may prove nothing. But when, as in the case of shad hatching on the Pacific coast, waters in which these fish did not exist have become peopled with them, so that, as an important fish-merchant in British Columbia recently told me, they are becoming a drug in the market owing to their abundance and low market price, it is clear that fish-hatching has had tangible results. Oddly enough the same complaint has now been made by U.S. fishermen on the Atlantic coast, in rivers where not many years ago the shad were remarkable for their rarity. One journal referred to the fact in these terms:—Shad fishing in the Delaware river has been so successful in numbers that the fishermen are kicking against the operations of the United States Fish Commission, stating that their efforts are causing shad to become so plentiful that there is no profit gained in taking them; 5,000 shad to a haul was a frequent occurrence in a recent season.

Another recent announcement not long ago stated that 'the Connecticut Fish Commission is greatly pleased with their results of their work for the last few years. Within four years there have been placed in the Connecticut River over 27,000,000 young shad from three to five inches, and two years ago 500,000 young shad were placed in the Farmington River. The result of the commission's labors is that shad are running more freely than they have for a quarter of a century.

Not only has the planting of shad benefitted the waters immediately stocked, but they have spread and have improved the shad fisheries in rivers more or less distant. Indeed on the Pacific coast they have wandered vast distances and have established

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themselves along a sea border of nearly 3,000 miles—a truly astonishing fact. Drs. Smith and Kendal in the U. S. Fish Commission Report six years ago, furnished the following surprising details: 'As the result' they state, 'of the plants of shad fry made in the Sacramento and Columbia rivers a number of years ago, this fish has become distributed along practically the entire west coast of the United States. Within a few years it has appeared in the rivers of British Columbia, where it is annually becoming more numerous; in 1891 the first shad was taken in the Fraser River; in 1892 the fish was reported from Rivers Inlet in latitude 51 degrees 30 minutes.

The further extension of the shad's range to the north and west may be recorded. Mr. John C. Calbreath, of Fort Wrangell, Alaska, in a letter to the special agent of the Treasury Department for the protection of the Alaskan salmon fisheries, refers to the taking of two shad in the Stikine River in 1891. The mouth of this stream is near Wrangell Island in latitude 56 degrees 30 minutes. Mr. C. H. Townsend, naturalist on the United States Fish Commission Steamer Albatross, informs us that in 1895, while at Sitka, a specimen of shad was received that had been obtained at Fort Wrangell; whether taken on Wrangell Island or in the Stikine River could not be ascertained. The specimen is now in Washington. It is a female, in fine condition, 15½ inches long and weighing two pounds.

While the existence of the shad on the Pacific coast is due to the fry planted in the Sacramento River about twenty-five years ago, the distribution of the fish from the original stream has been natural, and it seems proper to notice in this place the remote point to which the shad has voluntarily migrated. The fish has been taken as far south as San Pedro, in Los Angeles County, Cal. The Stikine River and San Pedro are about 2,700 miles apart.

The spawning process is over by the end of June, and the fish in a lean, emaciated condition drop down to the sea during the following four or five weeks. In spite of their poor condition the fishermen cannot resist netting them, and quantities of their inferior fish are salted and sent into market. They are little more than 'skin and bone' indeed the skin would be their principal feature, were it not that the shad's bones are almost beyond computation. Of course there have been theorists, who have claimed that the shad died after spawning. The same claim has been urged for numerous other fish; but it needs no refutation for the descending shad are annually caught in July and August, in St. John River, N.B., and a few weeks later, these fish are taken after feeding up the Bay of Fundy. They are then in an improved and well fed condition. It is true that at the shad hatcheries the parent fish as a rule die. Unlike trout, salmon, whitefish and other species the shad will not bear handling. Some think they die from fright. The operators at Catskill on the Hudson River return all the shad to the river, after taking the spawn as the close season is at that time in force, and they are noticed as a rule to die almost before sinking out of sight in the river. Comparatively few shad, however, will suffice to furnish ample spawn for hatchery purposes. The eggs being small there is considerable diversity in the estimates by various authorities of the number produced on an average by a female shad. 20,000 to 200,000 is the quantity variously estimated. The late Mr. A. N. Cheney held that 30,000 would be the average quantity, and that appears to be a fairly accurate estimate, though some have claimed that 20,000 was the limit, and others have held that a shad produced 10 to 12,000 eggs for each pound of its total weight, a four-pound shad producing nearly 50,000 eggs; but a very careful examination of 188 shad spawned at the Catskill, (U.S.) Hatchery showed that 4,940,000 eggs was the yield, giving an average of 26,000 eggs per fish. The eggs, as I pointed out, in my condensed though comprehensive report on the eggs of fishes published (1897) as an appendix to the Report of the Department of Marine and Fisheries, 1896, 'are of comparatively large size for a clupeoid viz. ⅔ or ¾ of an inch in diameter, fairly translucent, and with a very small yolk-ball, which occupies only a part of the spacious chamber inside the egg capsule.' When newly deposited shad eggs often cling together, by reason of a slight adhesiveness, in layers one egg deep. They are so transparent and delicate that to ordinary untrained eyes they are often undiscernable when contained in jars or other vessels. 'The eggs' wrote Mr. Lyman (Mass. Fish. Comm.) over thirty years ago, 'are as transparent as the water itself; but if they turn milky, and look like half-boiled sago they are spoiled.'



Shad hatching operations have often been hampered by the difficulty of securing abundance of ripe fish of both sexes at the time when the operators were prepared to take them. The temperature of the water effects in the most marked manner the act of depositing the eggs. When high spring freshets prevail and cold weather the fish refuse to spawn. A late rainy season is most unfavourable as the shad is very susceptible to variations in temperature and a falling barometer means retarded spawning. 'Our experience in North Carolina,' said Superintendent Worth in 1885, 'has not been so favorable on account of the fact that great quantities of ripe eggs have not been found at the points where they would be naturally looked for. . . . ' At the great fisheries in the broader estuaries, where large numbers of shad are taken, it would be supposed that an immense harvest of ripe eggs would exist. But this is not the case, for the reason that the fish have but recently entered the warmer waters, and the advancement in the roe has but partially taken place, and the greatest number of ripe fish found at any of the large fisheries is only one per cent.' It is interesting to note that early in the history of shad culture it was found that fry could be retained, and would develop into fingerlings. Thus the late Col. Marshall McDonald arranged that 30,000 shad fry placed in the carp ponds at Washington, D.C., should be retained, and when the ponds were thoroughly netted in the fall 7,000 fingerling shad  $2\frac{1}{2}$  to 5 inches in length were secured. Later (in 1887) a similar plant was made at Wytheville, Virginia, and in September 2,500 young shad were netted measuring  $1\frac{1}{2}$  to  $4\frac{1}{2}$  inches in length—a growth of only four or five months. In the latter experiment, it is stated that more than half the shad had probably escaped from an accidental opening. M. F. Mather reported similar success through the unintentional retension of some shad fry at Cold Spring Harbour, New York State. It had been customary to throw the dead eggs from the hatchery into the adjacent pond, and a few healthy living eggs had been accidentally included, so that when the pond was drained about the middle of August several young shad three inches and upward in length were unexpectedly secured. Superintendent G. S. Worth, of the Raleigh Hatchery, North Carolina, U. S., had reported some years earlier (See Report of Superintendent of Fish and Fisheries, State of North Carolina, 1883–84), that he had obtained thirty-three young shad in the fall of 1884, which had been hatched in April and May the year before (1883). They measured 8 or 9 inches in length and were, therefore, about half grown. 'These fish were hatched' Mr. Worth stated 'from a few sound eggs which had been thrown into one of the carp ponds, with the dead eggs removed from the hatching jars, and were altogether unexpected when I drew the pond to get the carp out in November. Dr. T. H. Bean, in 1885, reported that of 10,000 shad fry planted in April of that year, and kept under observation, no less than 7,000 were caught in December 10th, measuring, on an average 5 inches in length. These examples, taken at random establish not only the success of artificial shad incubation; but the rapid and healthy growth of the fish, under conditions not quite normal. The shad is generally supported to reach the mature adult condition in its third year, and the foregoing observations are all favourable to that prevalent conviction. Shad range in our markets from 4 pounds to 7 pounds, though specimens 8 or 9 pounds in weight are recorded in Wyoming and Susquehanna. Shad are known to reach a weight of 13 pounds. In the United States Fish Commission Depot, 1881, a fisherman, Mr. James Harvey, is reported to have said: 'Some of the shad used to weigh 8 or 9 pounds. I saw one weighed on a wagger which turned the scales at 13 pounds. 70 or 80 of the shad of average size would fill a barrel.' The length runs from 12 to 15 or 18 inches; but unusually fine specimens have been secured 24 to 30 inches in length. A newspaper announcement in May, refers to the size of the introduced shad on the Pacific coast and the time of their appearance.

'The first Columbia River shad has arrived at the markets at Astoria. The largest weighed over six pounds. Shad are rarely taken in the Columbia River at this season, being more numerous in June and July, when they are taken in large quantities.'

In Canadian rivers the schools of shad come in from the sea about the middle of May and continue during June; but in the United States rivers they are often very much earlier. Dr. Perley speaks of them as appearing in January at Charleston, N.C., on the coast off New York, they come inshore in March and early April, and at Boston in the latter end of April. An old Massachusetts fisherman, in 1881, when he was nearly 90 years of age, stated that about April 1, the shad in millions ascended the

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Atlantic coast rivers, and continued during April and May. He added the statement—a very remarkable one which exact scientific observations have confirmed that the first schools coming in, in early spring, were males, no females ever accompanying them. The females follow eight or ten days later, and the later schools are larger female fish with enlarged roes containing eggs in a more advanced condition. In such a river as the St. John, New Brunswick, they ascend 50 or 60 miles up the main channel and turn up the tributaries on both sides. They frequently wander over the fields submerged during the spring freshets, and deposit immense quantities of spawn of which much is inevitably lost when the water recedes. The choice of spawning grounds appears to be most erratic, as tributaries, which present every apparent favourable feature are passed by, and others uniformly chosen which possess no superior advantage, so far as can be judged. Some shad fishermen assert the same erratic choice in the selection of the spawning sites in the rivers frequented by the shad. Thus one fisherman quoted in *American Angler*, July, 1837, declared that on the eastern side of the Delaware River, at Marcus Hook and Tinicum, he always caught fine, large shad, that were full of solid roe, while directly opposite on the western side, the shad were not in such fine condition, and seemed to be in a spawning state; that is, the spawn of the female and the milt of the male oozed constantly from the fish.

The western bottom of the river is rocky and sandy, and the inference drawn by the old netter is that the shad spawns on these rocks in the latter part of May and the early days of June. He insists that he has seen the male fish following the female among these rocks in the same manner which they use in spawning in the upper tributaries of the Delaware River.

The most reliable source of supply for shad spawn is on the natural spawning grounds. There the fish become active towards evening, and crowd together about twilight on calm nights in late May and early June, where they can be seined and the spawn and milt taken by the usual process. More than the usual delicacy in handling, and care in collecting must be exercised or the fragile eggs will be damaged. Professors Jordan and Evermann in a recent popular work (*American Food and Game Fishes*) speak of the shad's eggs as 'very small, semi-buyont, and usually requiring six to ten days hatching,' but as I have pointed out that while the eggs are very translucent and of extreme delicacy they are really comparatively large, being in fact only one quarter less in diameter than the eggs of the speckled trout, and they readily hatch in June in two and a half to three days, though Mr. Cheney found that they hatch in three to nine days being spring spawning fish. It is essential that scales, blood, mucus, &c., be not allowed to fall into the buckets or dishes into which the eggs are spawned. They have sufficient buoyancy to dance about in the water if only slightly agitated, and in perfectly still water they are barely heavy enough to sink. They appear to be midway between the buoyant floating eggs of marine fishes such as the cod, haddock, and mackerel, and the heavy demersal ova of the herring, salmon, trout, &c. Perfectly clean fresh water must be used lest particles of mud cling to the slightly adhesive newly spawned eggs. The hatching is carried out either in the usual cylindrical hatchery jars, with the flow of water so arranged as to keep them in motion, or they may be placed in flat boxes with small perforations in the bottom, and placed at an angle so as to secure a flow of water from the bottom; but only sufficiently strong to secure their constant movement and aeration. The first successful shad hatching box or floating tray was devised by that ever-to-be-remembered pioneer in western fish-culture, the late Seith Green. Mr. Livingston Stone has told us how, when he visited Green at Holyoke in 1867 he found him tackling the difficult problem of hatching shad eggs. His attempts had been a failure. 'The peculiar character of the eggs, and the peculiar treatment required for them had baffled for a time even his keen-sighted genius and he had in despair almost decided to give it up and return home.' He persevered, however, and invented the gauzed covered box. 'It was a pleasant thing' Mr. Stone has told us, 'to see the change in Green's spirits that came with his first success in hatching shad. It seemed a little thing—nothing but some little delicate living embryos appearing in the frail eggs that he was working over.' Mr. Lyman described the arrangement, whereby Green continued that the box should float 'with one end tilted up, and the current striking the gauze bottom at an angle, is deflected upwards, and makes such a boiling within

as keeps the light shad eggs constantly free and buoyed up. The result was a triumph. Out of 10,000 ova placed in this contrivance, all but seven hatched. In spite of delays, and of the imperfect means at hand for taking the fish, Green succeeded in hatching and setting free in the river many millions of these tiny fry.' The small wriggling larval that bursts out of the egg in 60 to 180 hours, is like all the young of the herring family, indescribably delicate. It is about one-third of an inch long or less than half the length of a salmon, just hatched, and has all the frail characteristics of the clupeidae to which the shad belongs.

In proceeding to take and handle shad eggs much more care should be exercised than is ordinarily taken with stout and large eggs, such as those of the salmon and trout. Rough usage at once ruptures them, and dirt, blood, mucus scales, can be with difficulty cleared from them, if allowed to mingle in any way with the ova. Hence the following procedure should be adopted. Wide shallow vessels must be provided certain of them to be used for spawning fish into, while others are ready partially filled with clean water, and into them the clean eggs can be gently poured, after standing for a while.

The fish require to be taken about twilight, just before darkness comes on, as they are then crowding on the shallow spawning beds, many miles up the river, though usually not above tide head. The water in which they spawn is purely fresh water not saline and by hauling a long seine over the beds, sufficient specimens of both sexes may be secured. When captured in the day time, or not on the spawning beds, it is usually the case that all the females and no males can be obtained, or vice versa.

The eggs are so delicate and small ( $\frac{1}{4}$  or  $\frac{1}{8}$  in diameter) and run freely so that the females must be handled slowly and carefully. Roughly handled or jerked, the eggs will suddenly be voided, and most or all of them lost. The dry method must be adopted, each female being gently pressed and the eggs allowed to stream into a dish, just before rinsed out with clean water. The male is then treated in the same way; but it is frequently necessary to kill the male, and remove the testis. Holding the ripe soft testis in the hand, gently squeeze the milky fluid over the eggs and gently stir with the finger. Ripe male shad often do not run freely, i.e. the milt is frequently retained. On the other hand when the males are actually on the spawning beds congregating with the other sex, there is found no difficulty as a rule in fertilizing all the eggs. Shad rarely survive artificial spawning and it is useless to return them to the river. The eggs are so light that they must be transferred to large wide vessels, full of clean water, after being washed, so as to remove surplus milt, etc. When thus conveyed in large vessels, with abundant water, they freely roll and dance about, without clogging together and choking. The usual cylindrical glass-jars can be used for incubation and it is best to put as small a quantity as convenient in each jar—say  $\frac{1}{16}$ th filled, and allow a gentle current to flow. The current rising will keep them in motion: but, if too strong, many eggs will be driven up and escape from the outlet of the jar. In warm weather shad eggs hatch in 2 or 3 days: but it is better to incubate them more slowly and delay the hatching for 6 or 7 days. The delicate riggling fry require careful and judicious plaining on sandy or pebbly flats where the river is not too strong. In nature the eggs are hatched in strong rippling water, but the young fry are soon carried down to gentler shallows. I have repeatedly obtained very young larva shad on fine gravelly or clean sandy shallows, below the spawning beds of the shad. The fish, as already shown, are of rapid growth, reaching a length 2 inch or  $2\frac{1}{2}$  inch in as many months, and some actually measuring  $4\frac{1}{2}$  to 5 inches in their fifth or sixth month, when they are found in tidal waters, moving out into the sea, and associating with the schools of half grown herring.

## APPENDIX No. I.

## EXPENDITURE AND REVENUE.

The total expenditure for all Fisheries services, except Civil Government, for the fiscal year ending June 30, 1902, including Fishing Bounty, amounted to \$549,670, being within the appropriation by \$49,350.

The total net fisheries revenue, during the same period, from rents, license fees, fines and sales, including the *modus vivendi* licenses to United States vessels, amounted to \$79,169.

Service.	Expenditure.	Vote.
	\$ cts.	\$ cts.
Fisheries .....	104,880 41	105,900 00
Fish-breeding .....	79,891 85	80,000 00
Fisheries protection service .....	152,825 05	170,285 00
Fishing bounty .....	155,942 00	160,000 00
Miscellaneous expenditure .....	56,131 26	82,935 51
Total .....	549,670 57	599,020 51

The details of the above will be found in the Auditor General's report under the proper headings.

In addition to the above, the following summary shows the salaries and disbursements of fishery officers in the several provinces, together with the expenses for maintenance of the different fish-breeding establishments throughout the Dominion.

Service.	Expenditure.	Vote.
	\$ cts.	\$ cts.
Fisheries, Ontario .....	4,445 93	
" Quebec .....	6,242 56	
" New Brunswick .....	23,813 62	
" Nova Scotia .....	32,618 00	
" Prince Edward Island .....	7,814 02	
" Manitoba .....	2,624 87	
" North-west Territories .....	5,928 22	
" British Columbia .....	18,660 73	
" Yukon .....	2,066 66	
General account .....	765 78	
Total .....		104,880 41

This expenditure by provinces is subdivided as follows :—

## EXPENDITURE.

		\$ cts.	\$ cts.
<i>Ontario.</i>			
Salaries of officers.....		3,702 67	
Disbursements of officers .....		713 26	
Miscellaneous.....		30 00	
Total.....			4,445 93
<i>Quebec.</i>			
Salaries of officers.....		2,491 66	
Disbursements of officers .....		3,750 92	
Miscellaneous.....			
Total.....			6,242 58
<i>New Brunswick.</i>			
Salaries of officers.....		4,309 77	
Disbursements of officers .....		19,443 60	
Miscellaneous.....		60 25	
Total.....			23,813 62
<i>Nova Scotia.</i>			
Salaries of officers.....		8,607 38	
Disbursements of officers .....		23,927 62	
Miscellaneous.....		83 00	
Total.....			32,618 00
<i>Prince Edward Island.</i>			
Salaries of officers.....		2,025 00	
Disbursements of officers .....		5,683 52	
Miscellaneous.....		105 50	
Total.....			7,814 02
<i>Manitoba.</i>			
Salaries of officers.....		1,200 00	
Disbursements of officers .....		1,376 00	
Miscellaneous.....		48 87	
Total.....			2,624 87
<i>North-west Territories.</i>			
Salaries of officers.....		2,375 00	
Disbursements of officers .....		3,358 97	
Miscellaneous.....		194 25	
Total.....			5,928 22
<i>British Columbia.</i>			
Salaries of officers.....		2,650 00	
Disbursements of officers .....		10,032 68	
Miscellaneous .....		5,878 05	
Total.....			18,560 73
<i>Yukon.</i>			
Salaries of officers.....		1,666 66	
Disbursements of officers .....		400 00	
Total.....			2,066 66
General account.....			
Grand total.....			104,880 41

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## FISH-BREEDING.

Service.	Expenditure.	Amount.
	\$ cts.	\$ cts.
Fish-breeding, Ottawa hatchery.....	2,308 50	
" Newcastle ".....	3,923 16	
" Sandwich ".....	5,736 60	
" Tadoussac ".....	3,411 84	
" Gaspé ".....	15,922 06	
" Magog ".....	809 04	
" Restigouche.....	4,028 39	
" Bedford ".....	1,289 45	
" Bay View ".....	1,794 06	
" Quinté Bass Pond hatchery.....	477 05	
" Miramichi hatchery.....	3,145 45	
" St. John River hatchery.....	5,072 02	
" Fraser River ".....	5,031 64	
" Selkirk ".....	2,622 43	
" Margaree ".....	5,726 80	
" Granite Creek ".....	6,048 34	
" Skeena ".....	9,428 59	
General account.....	3,113 43	
Total.....		79,891 85

## SALARIES, ETC.

<i>Newcastle Hatchery.</i>		
Salaries.....	699 99	
Miscellaneous expenditure.....	3,223 17	
Total.....		3,923 16
<i>Sandwich Hatchery.</i>		
Salaries.....	900 00	
Miscellaneous expenditure.....	4,836 60	
Total.....		5,736 60
<i>Ottawa Hatchery.</i>		
Salaries.....	800 00	
Miscellaneous expenditure.....	1,508 50	
Total.....		2,308 50
<i>Tadoussac Hatchery.</i>		
Salaries.....	699 99	
Miscellaneous expenditure.....	2,711 85	
Total.....		3,411 84
<i>Gaspé Hatchery.</i>		
Salaries.....	440 00	
Miscellaneous expenditure.....	15,482 06	
Total.....		15,922 06
<i>Magog Hatchery.</i>		
Salaries.....	331 50	
Miscellaneous expenditure.....	477 54	
Total.....		809 04

## FISH-BREEDING—Continued.

	\$	cts.	\$	cts.
Brought forward.....			32,111	20
<i>Restigouche Hatchery.</i>				
Salaries.....	899	98		
Miscellaneous expenditure.....	3,128	41		
Total.....			4,028	39
<i>Bedford Hatchery.</i>				
Salaries.....	450	00		
Miscellaneous expenditure.....	839	45		
Total.....			1,289	45
<i>Bay View Hatchery.</i>				
Salaries.....	450	00		
Miscellaneous expenditure.....	1,354	06		
Total.....			1,794	06
<i>Miramichi Hatchery.</i>				
Salaries.....	1,000	00		
Miscellaneous expenditure.....	2,145	45		
Total.....			3,145	45
<i>St. John River Hatchery.</i>				
Salaries.....	600	00		
Miscellaneous expenditure.....	4,475	02		
Total.....			5,075	02
<i>Selkirk Hatchery.</i>				
Miscellaneous expenditure.....			2,622	43
<i>Fraser River Hatchery.</i>				
Salaries.....	500	00		
Miscellaneous expenditure.....	4,531	64		
Total.....			5,031	64
<i>Skeena.</i>				
Miscellaneous expenditure.....			9,428	59
<i>Quinte Bass Pond.</i>				
Salaries.....	125	00		
Miscellaneous expenditure.....	352	06		
Total.....			477	06
Carried forward.....			65,003	28

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FISH-BREEDING—*Concluded.*

	\$	cts.	\$	cts.
Brought forward .....			65,003	28
<i>Margaree.</i>				
Salaries .....	166	66		
Miscellaneous expenditure .....	5,560	14		
Total .....			5,726	80
<i>Granite Creek.</i>				
Miscellaneous expenditure .....			6,048	34
General account .....			3,113	43
Total .....			79,891	85

## FISHERIES PROTECTION SERVICE—1901-1902.

	\$	cts.	\$	cts.
<i>Steamer 'Acadia.'</i>				
Wages of officers and men .....	8,614	24		
Provisions .....	3,876	51		
Fuel .....	2,247	97		
Repairs .....	4,693	73		
Miscellaneous .....	3,698	39		
Clothing .....	1,192	55		
Total .....			24,323	39
<i>Steamer 'La Canadienne.'</i>				
Wages of officers and men .....	7,994	67		
Provisions .....	3,178	59		
Fuel .....	3,181	49		
Repairs .....	7,605	78		
Miscellaneous expenditure .....	1,906	85		
Clothing .....	1,128	08		
Total .....			24,995	46
<i>Steamer 'Curlew.'</i>				
Wage of officers and men .....	5,504	24		
Provisions .....	1,881	18		
Fuel .....	1,851	77		
Repairs .....	1,886	32		
Miscellaneous expenditure .....	415	45		
Clothing .....	340	50		
Total .....			11,879	46
<i>Steamer 'Petrel.'</i>				
Wages of officers and men .....	6,168	55		
Provisions .....	1,957	96		
Fuel .....	1,524	31		
Repairs .....	1,068	02		
Miscellaneous expenditure .....	625	13		
Clothing .....	420	90		
Total .....			11,764	87
Carried forward .....			117,404	62



FISHERIES PROTECTION SERVICE—1901-1902—*Concluded.*

	\$ cts.	\$ cts.
Brought forward.....		117,404 62
<i>Steamer 'Constance.'</i>		
Wages of officers and men.....	6,415 94	
Provisions.....	2,862 20	
Fuel.....	8,134 58	
Repairs.....	3,215 90	
Miscellaneous expenditure.....	3,921 37	
Clothing.....	330 95	
Total.....		24,779 58
<i>Schooner 'Osprey.'</i>		
Wages of officers and men.....	3,697 22	
Provisions.....	2,114 87	
Fuel.....	50 10	
Repairs.....	1,734 74	
Miscellaneous expenditure.....	819 88	
Clothing.....	351 45	
Total.....		8,768 26
<i>Schooner 'Kingfisher.'</i>		
Wages of officers and men.....	3,991 45	
Provisions.....	3,051 81	
Fuel.....	60 61	
Repairs.....	2,368 41	
Miscellaneous expenditure.....	889 60	
Clothing.....	329 00	
Total.....		10,690 88
<i>'Stanley.'</i>		
Wages of officers and men.....	2,315 49	
Fuel.....	564 65	
Total.....		2,880 14
<i>'Georgia.'</i>		
Miscellaneous expenditure.....		1,410 59
<i>'Brant.'</i>		
Wages of officers and men.....	1,739 50	
Provisions.....	528 66	
Fuel.....	433 32	
Repairs.....	22 96	
Clothing.....	199 25	
Total.....		2,923 68
General account.....		11,327 30
Fisheries Intelligence Bureau.....		3,149 11
New Steamer—British Columbia.....		138,892 72
		38,711 91
Less amount paid by Customs Department for steamer <i>Constance</i> .....		177,604 63
Net total.....		24,779 58
		152,825 07

**MISCELLANEOUS EXPENDITURE.**

MISCELLANEOUS.		\$	cts.
Building fishways.....		928	12
Legal and incidental expenses.....		6,184	55
Canadian fisheries exhibit.....		1,753	82
Expenditure in connection with the distribution of fishing bounties.....		4,564	43
Surveys of oyster beds.....		6,419	26
Issuing licenses to United States fishing vessels.....		472	20
Cold storage.....		11,671	30
Balance for counsel fees—Behring Sea Commission.....		605	05
Russian seizures.....		2,936	88
Fisheries biological laboratory.....		1,482	15
J. C. Noble, compensation for seizure of tugs and gear.....		15,563	00
McCarthy, Osler, Hoskin & Creelman, professional services re. Noble case..		3,000	00
David Creed, injured seaman of the "Osprey".....		200	00
Fisheries revenue (refund).....			50 50
Gratuities to widow J. Newman, fishery officer drowned while on duty.....	\$ 150	00	
" R. R. Hogg " " " ".....		150	00
		300	00
		56,131	26

**STATEMENT of Fisheries Revenue paid to the credit of the Receiver General of Canada,  
for the Fiscal Year ended June 30, 1902.**

	\$	cts.
Ontario—rents, license fees, fines, &c. ....	373	42
Quebec                   "                   .....	2,498	85
Nova Scotia           "                   .....	6,084	65
New Brunswick       "                   .....	11,658	34
P. E. Island           "                   .....	1,843	45
Manitoba              "                   .....	2,279	00
N. W. Territories     "                   .....	950	07
British Columbia    "                   .....	41,178	65
Yukon Territory      "                   .....	1,130	00
Total.....	67,996	43
LESS—Refunds.....	50	50
Licenses to United States fishing vessels .....	67,945	93
Net total.....	11,223	65
	79,169	58

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## COMPARATIVE STATEMENT of Expenditure and Revenue of the

Number.		1888-89.		1889-90.		1890-91.	
		Expendi- ture.	Revenue.	Expendi- ture.	Revenue.	Expendi- ture.	Revenue.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ c.	\$ c.
1	Ontario.....	19,264 98	24,266 06	14,539 87	23,666 96	15,540 30	26,517 70
2	Quebec.....	12,991 63	3,380 79	9,670 94	5,409 81	10,666 98	3,642 14
3	New Brunswick.....	20,298 00	8,282 88	14,914 95	8,834 35	16,082 77	7,193 69
4	Nova Scotia.....	20,201 09	2,744 23	17,395 24	5,424 95	17,844 19	5,582 65
5	Prince Edward Island.....	3,746 69	140 00	3,113 21	302 88	3,242 25	667 00
6	Manitoba & N.W. Territories.....	2,848 16	848 00	3,604 70	794 00	3,609 03	1,234 00
7	British Columbia.....	4,333 63	6,416 00	3,634 41	11,367 50	4,220 53	12,859 02
8	Fish-breeding and fishways.....	41,315 12	352 50	39,126 91	.....	39,496 45	1,286 50
9	Fisheries Protection Service.....	69,693 82	.....	64,434 66	1,176 38	83,050 16	1,934 49
10	Miscellaneous.....	10,912 18	.....	9,313 92	.....	13,382 28	.....
	Totals.....	205,605 30	46,440 46	178,748 81	56,976 83	207,234 94	60,917 19
	Fishing bounties.....	149,990 63	.....	149,999 85	.....	165,967 22	.....

Number.		1895-96.		1896-97.		1897-98.	
		Expendi- ture.	Revenue.	Expendi- ture.	Revenue.	Expendi- ture.	Revenue.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ c.	\$ c.
11	General Account Fisheries.....	.....	.....	2,198 47	.....	2,389 66	.....
12	Ontario.....	24,917 48	35,681 68	21,592 40	32,814 66	19,239 34	30,574 57
13	Quebec.....	11,870 43	8,160 98	12,910 80	7,876 12	11,140 16	7,571 15
14	New Brunswick.....	20,526 56	10,696 88	21,671 92	10,110 77	17,063 58	5,317 08
15	Nova Scotia.....	23,049 41	6,180 93	23,682 33	5,239 55	21,683 91	11,511 86
16	Prince Edward Island.....	3,555 87	2,161 85	3,744 36	2,032 25	6,775 78	2,707 57
17	Manitoba.....	6,915 20	2,256 69	1,908 14	1,719 00	1,206 26	1,515 00
18	N. W. Territories.....	.....	.....	2,181 58	344 13	2,324 66	393 87
19	British Columbia.....	6,226 77	26,410 75	8,841 64	39,888 82	8,508 79	47,864 75
20	Yukon.....	.....	.....	.....	.....	.....	.....
21	Fish-breeding.....	38,060 41	.....	27,330 73	.....	28,002 32	.....
22	Fisheries Protection Service.....	102,021 72	.....	99,357 01	.....	101,807 96	.....
23	Miscellaneous.....	20,203 25	.....	62,777 30	.....	59,919 56	.....
	Totals.....	257,237 10	91,549 76	289,197 01	100,025 30	280,061 98	107,455 84
	Fishing bounties.....	163,567 99	.....	154,389 77	.....	157,504 00	.....

## SESSIONAL PAPER No. 22

Fisheries Department, from July 1, 1888, to June 30, 1902.

1891-92.		1892-93.		1893-94.		1894-95.		Number.
Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ cts.	\$ cts.	
15,155 83	25,368 90	20,116 91	30,623 09	22,634 37	28,632 82	21,938 56	33,211 60	1
10,917 36	4,742 76	11,761 34	7,471 70	11,692 82	7,211 82	12,459 34	8,836 18	2
15,707 98	6,334 83	15,721 05	7,831 53	18,522 94	8,333 24	21,370 94	11,170 36	3
18,755 86	3,357 42	19,444 22	6,782 02	20,420 81	5,296 27	23,555 38	7,075 07	4
1,835 65	166 00	2,847 60	304 10	3,078 55	980 15	3,796 58	3,312 30	5
3,593 43	1,079 00	3,932 96	1,661 68	5,331 29	926 99	6,178 71	2,458 80	6
6,158 17	8,192 48	5,490 60	40,264 00	5,283 21	25,337 90	6,218 74	23,517 25	7
43,957 74	178 00	47,322 49	.....	45,024 67	.....	39,730 93	.....	8
93,397 40	.....	106,805 39	.....	115,147 59	.....	100,207 29	.....	9
17,449 06	.....	100,602 14	.....	34,892 19	.....	24,619 86	.....	10
226,928 48	49,719 39	334,044 70	94,938 12	282,028 44	76,719 19	260,076 33	89,581 56	
156,892 25	.....	159,752 15	.....	158,794 54	.....	160,089 42	.....	
1898-99.		1899-00.		1900-01.		1901-02.		
2,632 12	.....	652 41	.....	1,117 49	.....	765 78	.....	11
11,784 22	5,830 85	3,804 94	794 12	3,819 57	717 35	4,445 93	373 42	12
11,350 27	6,287 71	5,452 41	2,543 04	7,934 03	4,738 92	6,242 58	2,498 85	13
22,922 50	10,430 08	21,659 94	12,015 27	28,452 51	10,150 40	23,813 62	11,658 34	14
25,348 11	6,668 22	27,461 91	5,494 49	35,760 39	6,595 94	32,618 00	6,084 65	15
6,832 85	2,242 24	7,364 30	2,207 12	7,934 03	1,525 30	7,814 02	1,843 45	16
1,883 37	1,637 85	1,723 59	2,028 00	2,669 74	1,103 00	2,624 87	2,279 00	17
4,065 68	150 50	3,848 25	1,522 50	6,251 39	1,222 55	5,928 22	950 07	18
8,459 47	45,801 75	13,662 17	53,195 35	17,886 36	52,960 35	18,560 73	41,178 65	19
.....	.....	.....	.....	.....	.....	2,066 66	1,130 00	20
34,522 57	.....	38,070 12	.....	68,961 40	.....	79,891 85	.....	21
106,133 27	.....	97,370 11	.....	124,211 21	.....	152,723 69	.....	22
23,207 73	.....	31,125 67	.....	27,833 79	.....	56,131 26	.....	23
427,590 16	76,949 20	411,717 35	79,799 89	332,767 07	79,013 81	393,627 21	67,996 43	
159,459 00	.....	160,000 00	.....	158,802 50	.....	155,942 00	.....	

## APPENDIX No. 2.

## FISHING BOUNTIES.

The payments made for this service are under the authority of Act 54-55 Vic., cap. 42, intituled: 'An Act to encourage the development of the sea fisheries and the building of fishing vessels,' which provides for the payment of the sum of \$160,000 annually, under regulations to be made from time to time by the Governor General in Council.

## REGULATIONS.

The regulations governing the payment of fishing bounties are as established by the following Order in Council dated 10th December, 1897:—

*Order in Council.*

AT THE GOVERNMENT HOUSE AT OTTAWA.

FRIDAY, the 10th day of December, 1897.

*Present:*

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

His Excellency, in virtue of the provisions of 'The Bounty Act, 1891', 54-55 Victoria, chapter 42, and by and with the advice of the Queen's Privy Council for Canada, is pleased to order that the regulations governing the payment of fishing bounties established by order of the Governor in Council dated August 24, 1894, shall be and the same are hereby rescinded, and the following regulations substituted therefor:—

1. Resident Canadian fishermen who have been engaged in deep-sea fishing for fish other than shell-fish, salmon and shad, or fish taken in rivers, or mouths of rivers, for at least three months, and have caught not less than 2,500 pounds of sea-fish, shall be entitled to a bounty; provided always, that no bounty shall be paid to men fishing in boats measuring less than 13 feet keel, and not more than 3 men (the owner included), will be allowed as claimants in boats under 20 feet.

2. No bounty shall be paid upon fish caught in trap-nets, pound-nets and weirs, nor upon the fish caught in gill-nets fished by persons who are pursuing other occupations than fishing, and who devote merely an hour or two daily to fishing these nets but are not, as fishermen, steadily engaged in fishing.

3. Only one claim will be allowed in each season, even though the claimant may have fished in two vessels, or in a vessel and a boat, or in two boats.

4. The owners of boats measuring not less than 13 feet keel which have been engaged during a period of not less than three months in deep-sea fishing for fish other than shell-fish, salmon or shad, or fish taken in rivers or mouths of rivers, shall be entitled to a bounty on each such boat.

5. Canadian registered vessels, owned and fitted out in Canada, of 10 tons and upwards (up to 80 tons) which have been exclusively engaged during a period of not less than three months in the catch of sea-fish other than shell-fish, salmon or shad, or fish taken in rivers, or mouths of rivers, shall be entitled to a bounty to be calculated on the registered tonnage which shall be paid to the owner or owners.

6. The three months during which a vessel must have been engaged in fishing, to be entitled to bounty, shall commence on the day the vessel sails from port on her fishing voyage and end the day she returns to port from said voyage.

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7. Owners or masters of vessels intending to fish and claim bounty on their vessels must, before proceeding on a fishing voyage, procure a license from the nearest Collector of Customs or Fishery Overseer, said license to be attached to the claim when sent in for payment.

8. Dates and localities of fishing must be stated in the claim, as well as the quantity and kinds of sea-fish caught.

9. Ages of men must be given. Boys under 14 years of age are not eligible as claimants.

10. Claims must be sworn to as true and correct in all their particulars.

11. Claims must be filed on or before November 30 in each year.

12. Officers authorized to receive claims will supply the requisite blanks free of charge, and after certifying the same will transmit them to the Department of Marine and Fisheries.

13. No claim in which an error has been made by the claimant or claimants shall be amended after it has been signed and sworn to as correct.

14. Any person or persons detected making returns that are false or fraudulent in any particular will be debarred from any further participation in the bounty, and be prosecuted according to the utmost rigour of the law.

15. The amount of the bounty to be paid to fishermen and owners of boats and vessels will be fixed from time to time by the Governor in Council.

16. All vessels fishing under bounty license are required to carry a distinguishing flag, which must be shown at all times during the fishing voyage at the main-topmast head. The flag must be four feet square in equal parts of red and white, joined diagonally from corner to corner. Any case of neglect to carry out this regulation reported to the Department of Marine and Fisheries will entail the loss of the bounty, unless satisfactory reasons are given for its non-compliance.

JOHN J. McGEE,  
Clerk of the Privy Council.

The bounty for the year 1901 was distributed on the basis authorized by the following Order in Council:—

AT THE GOVERNMENT HOUSE AT OTTAWA,  
The 25th day of January, 1902.

*Present :*

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

The Governor in Council, in virtue of the provisions of the Act 54-55 Victoria, chapter 42, intituled : "An Act to amend chapter 96 of the Revised Statutes, intituled an Act to encourage the development of the Sea Fisheries and the building of fishing vessels," is pleased to order and does hereby order that the sum of one hundred and sixty thousand dollars payable under the provisions of the said Act shall be distributed for the year 1901-1902 upon the following basis:—

Vessels : The owner of the vessels entitled to receive bounty shall be paid one dollar (\$1) per registered ton, provided, however, that the payment to the owner of any one vessel shall not exceed the sum of eighty dollars (\$80), and all vessel fishermen entitled to receive bounty, shall be paid the sum of seven dollars (\$7) each.

Boats : Fishermen engaged in fishing in boats, who shall also have complied with the regulations entitling them to receive bounty, shall be paid the sum of three dollars and fifty cents (\$3.50) each, and the owners of fishing boats shall be paid one dollar (\$1) per boat.

JOHN J. McGEE,  
Clerk of the Privy Council.

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There were received for the year 1901, 13,393 claims, a decrease of 378 as compared with 1900.

The number of claims paid during the year was 13,374, a decrease of 402 as compared with the previous year.

There were \$69,091.50 in bounties paid to vessels and their crews, and \$86,850.50 to boats and boat fishermen, making the total payments during the year 1901, \$155,942.

The number of vessels which received bounty during the year was 786, the total tonnage being 25,605 tons, a decrease of 16 vessels and 34 tons as compared with 1900.

Bounty was paid on 12,588 boats, and to 21,217 boat fishermen during the year, showing a decrease of 386 boats and 814 men as compared with last year.

#### DETAILED STATEMENT of Fishing Bounty Claims received and paid during the year 1901.

Province.	County.	Number of Claims received.	Number of Claims rejected.	Number of Claims paid.
Nova Scotia . . . . .	Annapolis . . . . .	126	1	125
	Antigonish . . . . .	108		108
	Cape Breton . . . . .	405	1	404
	Cumberland . . . . .	8		8
	Digby . . . . .	516	1	515
	Guysborough . . . . .	930	2	928
	Halifax . . . . .	1,515	2	1,513
	Hants . . . . .	1		1
	Inverness . . . . .	368	2	366
	King's . . . . .	61		61
	Lunenburg . . . . .	1,027	4	1,023
	Pictou . . . . .	4		* 17
	Queen's . . . . .	175	1	174
	Richmond . . . . .	776		776
	Shelburne . . . . .	692	1	691
	Victoria . . . . .	386		396
	Yarmouth . . . . .	238		238
	Totals . . . . .	7,346	15	*7,344
New Brunswick . . . . .	Charlotte . . . . .	380	1	379
	Gloucester . . . . .	344	2	342
	Kent . . . . .	58		58
	Northumberland . . . . .	4		4
	Restigouche . . . . .			
	St. John . . . . .	43		43
	Totals . . . . .	829	3	826
Prince Edward Island . . . . .	King's . . . . .	422		422
	Prince . . . . .	410	2	408
	Queen's . . . . .	109	2	107
	Totals . . . . .	941	4	937
Quebec . . . . .	Bonaventure . . . . .	824	2	822
	Gaspé . . . . .	2,569	6	2,563
	Rimouski . . . . .	55	1	54
	Saguenay . . . . .	829	1	828
	Totals . . . . .	4,277	10	4,267
	Grand totals . . . . .	13,393	32	13,374

\*NOTE.—The number of claims paid include several applications for previous years, which explains the difference between claims paid and claims received, after deducting those rejected.

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## DETAILED STATEMENT of Fishing Bounties paid to Vessels in each County for the Year 1901.

Province.	County.	Number of Vessels.	Tonnage.	Average Tonnage.	Number of Men.	Amount paid.
						\$ cts.
Nova Scotia .....	Annapolis .....	8	160	20	37	409 00
	Antigonish .....	1	10	10	2	24 00
	Cape Breton .....	14	231	16 50	60	651 00
	Cumberland .....					
	Digby .....	53	1,536	28 98	427	4,523 50
	Guyaborough .....	33	686	20 78	171	1,883 00
	Halifax .....	51	1,214	23 80	287	3,223 00
	Hants .....	1	17	17	2	31 00
	Inverness .....	23	304	13 21	102	1,018 00
	King's .....	2	24	12	4	52 00
	Lunenburg .....	164	12,334	75 20	2,716	31,346 00
	Pictou .....					
	Queen's .....	7	105	15	30	315 00
	Richmond .....	51	1,368	26 82	340	3,748 00
	Shelburne .....	54	1,640	30 37	464	4,888 00
	Victoria .....	5	67	13 40	27	256 00
	Yarmouth .....	41	1,773	43 24	489	5,196 00
	Totals .....	506	21,469	42 26	5,158	57,563 50
New Brunswick .....	Charlotte .....	56	983	17 55	177	2,222 00
	Gloucester .....	179	2,121	11 84	670	6,811 00
	Kent .....					
	Northumberland .....	3	33	11	7	82 00
	Restigouche .....	4	92	23	18	218 00
	Totals .....	242	3,229	13 34	872	9,333 00
Prince Edward Island.	King's .....	15	375	25	81	942 00
	Prince .....	6	139	23 16	24	307 00
	Queen's .....	2	27	13 50	10	97 00
	Totals .....	23	541	23 95	115	1,346 00
Quebec .....	Bonaventure .....	1	26	26	3	47 00
	Gaspé .....	6	130	21 66	27	319 00
	Rimouski .....					
	Saguenay .....	6	210	35	39	483 00
	Totals .....	13	366	28 15	69	849 00
	Grand totals .....	786	25,605	32 57	6,214	69,091 50



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DETAILED STATEMENT of Fishing Bounties paid to Boats in each County for the Year 1901, showing also total amount paid to Vessels and Boats for the Year.

Province.	County.	Number of Boats.	Number of Men.	Amount paid.	Total Bounty paid to Vessels and Boats in 1901.
				\$ cts.	\$ cts.
Nova Scotia .....	Annapolis .....	117	186	768 00	1,177 00
	Antigonish .....	107	161	670 50	694 50
	Cape Breton .....	390	710	2,875 00	3,526 00
	Cumberland .....	8	13	53 50	53 50
	Digby .....	462	833	3,377 50	7,901 00
	Guyaborough .....	895	1,445	5,952 50	7,835 50
	Halifax .....	1,462	1,952	8,294 00	11,517 00
	Hants .....				31 00
	Inverness .....	343	746	2,954 00	3,972 00
	King's .....	59	91	377 50	429 50
	Lunenburg .....	859	1,000	4,360 00	35,706 00
	Pictou .....	17	21	90 50	90 50
	Queen's .....	167	266	1,098 00	1,413 00
	Richmond .....	725	1,088	4,533 00	8,281 00
	Shelburne .....	637	1,044	4,291 00	9,179 00
	Victoria .....	391	625	2,578 50	2,834 50
	Yarmouth .....	197	283	1,187 50	6,383 50
	Totals .....	6,836	10,464	43,461 00	101,024 50
New Brunswick .....	Charlotte .....	323	478	1,996 00	4,218 00
	Gloucester .....	163	369	1,454 50	8,265 50
	Kent .....	58	92	380 00	380 00
	Northumberland .....	1	1	4 50	86 50
	Restigouche .....				
	St. John .....	39	61	252 50	470 50
	Totals .....	584	1,001	4,087 50	13,420 50
Prince Edward Island .....	King's .....	407	576	2,426 00	3,368 00
	Prince .....	402	928	3,650 00	3,957 00
	Queen's .....	105	231	913 50	1,010 50
	Totals .....	914	1,735	6,989 50	8,335 50
Quebec .....	Bonaventure .....	821	1,478	5,994 00	6,041 00
	Gaspé .....	2,557	5,076	20,322 00	20,641 00
	Rimouski .....	54	71	302 50	302 50
	Saguenay .....	822	1,392	5,694 00	6,177 00
	Totals .....	4,254	8,017	32,312 50	33,161 50
	Grand totals .....	12,588	21,217	86,850 50	155,942 00

## GENERAL STATISTICS.

The fishing bounty was first paid in 1882.

The payments were made each year on the following basis:—

1882, vessels \$2 per ton, one half to the owner and the other half to the crew.

Boats at the rate of \$5 per man, one-fifth to the owner and four-fifths to the men.

1883, vessels \$2 per ton, and boats \$2.50 per man, distributed as in 1882.

1884, vessels \$2 per ton, as in 1882 and 1883.

Boats from 14 to 18 feet keel.....	\$1 00
do 18 to 25 do .....	1 50
do 25 feet keel upwards.....	1 00

And boat fishermen \$3 each.

1885, 1886 and 1887, vessels \$2 per ton as in previous years. Boats measuring 13 feet keel having been admitted in 1885, the rates were:—Boats from 13 to 18 feet keel, \$1; from 18 to 25 feet keel, \$1.50; from 25 feet keel upwards, \$2, and fishermen \$3 each.

1888 vessels \$1.50 per ton, one half each to owner and crew. Boats, the same as in 1885, 1886 and 1887.

1889, 1890 and 1891, vessels \$1.50 per ton as in 1888. Boats \$1 each. Boat fishermen \$3.

1892, vessels \$3 per ton, one half each to owner and crew. Boats \$1 each. Boat fisherman \$3.

1893, vessels \$2.90 per ton, paid as formerly. Boats \$1 each. Boat fishermen \$3.

1894, vessels \$2.70 per ton, distributed as in previous years. Boats \$1 each. Boat fishermen \$3.

1895, vessels \$2.60 per ton, half each to owner and crew. Boats \$1 each. Boat fishermen \$3.

1896, vessels \$1 per ton, which was paid to the owners, and vessel fishermen \$5 each, clause 5 of the regulations having been amended accordingly. Boats \$1 each, and boat fishermen \$3.50 per man.

1897, vessels \$1 per ton, and vessel fishermen \$6 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1898, vessels \$1 per ton, and vessel fishermen \$6.50 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1899, vessels \$1 per ton, and vessel fishermen \$7 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1900, vessels \$1 per ton, and vessel fishermen \$6.50 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1901, vessels \$1 per ton, and vessel fishermen \$7 each. Boats \$1 each, and boat fishermen \$3.50 per man.

Since 1882, 16,231 vessels, totalling a tonnage of 581,632 tons, have received the bounty. The total number of vessel fishermen which received bounty is 124,550, being an average of about 7 men per vessel.

The total number of boats to which bounty was paid since 1882 is 276,965, and the number of fishermen 512,201. Average number of men per boat, 2.

The highest bounty paid per head to vessel fishermen was \$21.75 in 1893; the lowest 83 cents, while the highest to boat fishermen was \$4, the lowest \$2.

The general average paid per head is \$4.95.

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COMPARATIVE STATEMENT by Provinces for the Years 1882 to 1901, inclusive, showing :—  
 (1) Total number of Fishing Bounty Claims received and paid by the Department of Marine and Fisheries.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		P.E. ISLAND.		QUEBEC.		TOTAL.	
	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.
1882.....	6,730	6,613	1,257	1,142	1,169	1,100	3,162	3,117	12,318	11,972
1883.....	7,171	7,076	1,693	1,579	1,138	1,106	3,602	3,325	13,604	13,086
1884.....	7,007	6,930	1,252	1,224	923	885	3,470	3,429	12,652	12,468
1885.....	7,646	7,599	1,609	1,588	1,117	1,025	3,943	3,912	14,315	14,124
1886.....	7,639	7,702	1,767	1,763	1,131	1,080	4,275	4,355	14,812	14,900
1887.....	8,262	8,227	1,975	1,958	1,201	1,126	4,138	4,105	15,576	15,416
1888.....	8,481	8,429	2,065	2,026	1,153	834	4,328	4,310	16,027	15,599
1889.....	8,816	8,523	2,428	2,392	1,211	1,511	4,664	4,652	17,119	17,078
1890.....	9,337	9,429	2,522	2,469	1,352	1,257	4,860	4,804	18,077	17,959
1891.....	10,242	10,063	2,831	2,084	1,482	1,446	5,108	4,913	19,663	18,506
1892.....	8,272	8,186	1,067	1,001	1,065	1,051	4,425	4,204	14,829	14,442
1893.....	7,926	7,844	967	881	1,027	1,012	4,059	3,898	13,979	13,635
1894.....	8,640	8,600	925	911	983	963	3,948	3,876	14,496	14,350
1895.....	8,835	8,825	979	975	1,009	1,025	3,904	3,955	14,727	14,780
1896.....	8,597	8,562	1,137	1,064	1,111	1,120	4,366	4,229	15,211	14,975
1897.....	8,450	8,418	1,042	991	1,175	1,171	4,180	4,149	14,847	14,729
1898.....	8,446	8,347	984	917	1,143	1,145	4,156	4,092	14,679	14,501
1899.....	7,894	7,754	849	825	1,016	947	4,134	4,102	13,893	13,628
1900.....	7,484	7,452	904	904	1,119	1,169	4,264	4,251	13,771	13,776
1901.....	7,346	7,344	829	826	941	937	4,277	4,267	13,393	13,374
Total.....	163,221	161,923	29,032	27,520	22,466	21,910	83,263	81,945	297,982	293,293

(2) NUMBER of vessels, tonnage and number of men which received Bounty in each year.

YEAR.	NOVA SCOTIA.			NEW BRUNSWICK.			P.E. ISLAND.			QUEBEC.			TOTAL.		
	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.
1882.....	588	22,841	5,343	120	2,171	531	15	389	74	63	2,210	538	786	27,611	6,486
1883.....	700	29,788	6,238	126	2,102	496	16	450	66	62	2,236	443	904	34,576	7,243
1884.....	700	29,828	6,327	139	2,289	560	16	582	92	56	1,965	382	911	34,664	7,361
1885.....	629	27,709	5,897	128	2,120	496	19	597	113	55	1,791	417	831	32,217	6,823
1886.....	562	25,375	5,022	145	2,628	520	32	1,071	215	52	1,730	320	791	30,804	6,077
1887.....	566	24,520	4,900	154	2,889	563	38	1,677	338	54	1,883	334	812	30,969	6,135
1888.....	589	26,008	5,450	150	2,545	544	37	1,245	249	51	1,842	388	827	31,640	6,631
1889.....	597	27,123	5,684	153	2,590	565	35	1,274	239	48	1,729	330	833	32,716	6,818
1890.....	540	23,955	4,935	133	2,129	447	32	1,002	203	34	1,182	220	739	28,268	5,805
1891.....	527	22,780	4,618	124	2,051	411	27	778	155	27	924	168	705	26,533	5,352
1892.....	507	22,279	4,611	108	1,683	343	30	983	139	23	803	159	668	25,748	5,252
1893.....	536	23,195	4,780	210	2,922	634	27	910	151	32	952	179	805	27,979	5,744
1894.....	602	24,735	5,684	238	3,189	721	21	594	114	38	1,066	178	899	29,584	6,090
1895.....	603	25,018	5,184	238	3,107	704	27	769	129	39	1,262	173	907	30,156	6,250
1896.....	553	23,415	4,607	250	3,357	800	23	656	114	36	1,143	144	862	28,551	5,665
1897.....	507	21,323	4,829	239	3,079	816	20	490	109	24	833	116	790	25,725	5,870
1898.....	505	20,868	4,840	239	3,155	859	24	561	125	16	524	77	784	25,108	5,901
1899.....	519	22,538	5,323	238	3,131	885	15	373	76	17	497	78	789	26,539	6,362
1900.....	525	22,474	5,352	234	2,969	890	29	737	153	14	459	76	802	26,639	6,471
1901.....	508	21,469	5,158	242	3,229	872	23	541	115	13	366	69	786	25,605	6,214
Total.....	11,363	487,241	104,175	3,608	53,315	12,717	506	15,679	2,969	754	25,397	4,689	16,231	581,632	124,550

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## (3) NUMBER of Boats and boat fishermen which received Bounty in each year.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		P.E. ISLAND.		QUEBEC.		TOTAL.	
	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.
1882 .....	6,043	12,130	1,024	2,530	1,087	3,070	3,071	5,716	11,225	23,446
1883 .....	6,458	13,553	1,453	3,309	1,098	3,106	3,266	6,188	12,275	26,156
1884 .....	6,257	12,669	1,086	2,505	869	2,346	3,344	6,416	11,556	23,936
1885 .....	6,970	13,396	1,460	3,254	1,006	2,606	3,857	7,485	13,293	26,741
1886 .....	7,140	13,351	1,618	3,567	1,048	2,547	4,303	7,981	14,109	27,446
1887 .....	7,662	13,997	1,804	3,994	1,088	2,711	4,051	7,550	14,605	28,252
1888 .....	7,840	14,115	1,876	4,148	797	2,141	4,259	7,852	14,772	28,256
1889 .....	7,926	14,118	2,237	5,032	1,475	3,568	4,602	8,807	16,240	31,525
1890 .....	8,886	15,738	2,324	5,242	1,192	3,024	4,766	9,241	17,168	33,245
1891 .....	9,525	16,552	1,928	4,126	1,383	3,427	4,865	9,402	17,701	33,507
1892 .....	7,679	12,307	893	1,765	1,021	2,047	4,181	7,693	13,774	23,812
1893 .....	7,308	11,748	671	1,314	985	1,962	3,866	7,245	12,830	22,269
1894 .....	7,956	12,899	661	1,281	913	1,813	3,821	7,139	13,351	23,132
1895 .....	8,222	13,106	737	1,434	998	2,141	3,916	7,877	13,873	24,558
1896 .....	8,008	12,454	814	1,553	1,095	2,126	4,189	7,688	14,106	23,821
1897 .....	7,911	12,542	752	1,351	1,151	2,147	4,125	7,572	13,939	23,612
1898 .....	7,872	12,438	678	1,237	1,121	2,199	4,076	7,627	13,747	23,501
1899 .....	7,235	11,305	587	1,027	932	1,710	4,085	7,696	12,839	21,738
1900 .....	6,927	10,645	670	1,184	1,140	2,198	4,237	8,004	12,974	22,031
1901 .....	6,836	10,464	584	1,001	914	1,735	4,254	8,017	12,588	21,217
Total .....	150,661	259,527	23,857	50,854	21,313	48,624	81,134	153,196	276,965	512,201

## (4) TOTAL Number of men receiving Bounty in each year.

YEAR.	NOVA SCOTIA.	NEW BRUNSWICK.	P.E. ISLAND.	QUEBEC.	Total.
	No. of Men.	No. of Men.	No. of Men.	No. of Men.	
1882 .....	17,473	3,061	3,144	6,254	29,932
1883 .....	19,791	3,805	3,172	6,631	33,399
1884 .....	18,996	3,065	2,438	6,798	31,297
1885 .....	19,293	3,750	2,719	7,802	33,564
1886 .....	18,373	4,087	2,762	8,301	33,523
1887 .....	18,897	4,557	3,049	7,884	34,387
1888 .....	19,565	4,692	2,390	8,240	34,887
1889 .....	19,802	5,597	3,807	9,137	38,343
1890 .....	20,673	5,689	3,227	9,461	39,050
1891 .....	21,170	4,537	3,532	9,570	38,859
1892 .....	16,918	2,108	2,186	7,852	29,064
1893 .....	16,528	1,948	2,113	7,424	28,013
1894 .....	17,976	2,002	1,927	7,317	29,222
1895 .....	18,290	2,198	2,270	8,050	30,808
1896 .....	17,061	2,353	2,240	7,832	29,486
1897 .....	17,371	2,167	2,256	7,688	29,482
1898 .....	17,278	2,096	2,324	7,704	29,402
1899 .....	16,628	1,912	1,786	7,774	28,100
1900 .....	15,997	2,074	2,351	8,080	28,502
1901 .....	15,622	1,873	1,850	8,086	27,431
Total .....	363,702	63,571	51,593	157,885	636,751

## (5) TOTAL annual payments of Fishing Bounty.

YEAR.	Nova Scotia. •	New Brunswick.	P.E. Island.	Quebec.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1882.....	106,098 72	16,997 00	16,137 00	33,052 75	172,285 47
1883.....	89,432 50	12,395 20	8,577 14	19,940 01	130,344 85
1884.....	104,934 09	13,576 00	9,203 96	28,004 93	155,718 98
1885.....	103,999 73	15,908 25	10,166 65	31,464 76	161,539 39
1886 .....	98,789 54	17,894 57	10,935 87	33,283 61	160,903 59
1887.....	99,622 03	19,699 65	12,528 51	31,907 73	163,757 92
1888 .....	89,778 90	18,451 92	9,092 96	32,858 75	150,185 53
1889.....	90,142 51	21,026 79	13,994 53	33,362 71	158,526 54
1890 .....	91,235 64	21,108 33	11,686 32	34,210 72	158,241 01
1891.....	92,377 42	17,235 96	12,771 30	34,507 17	156,891 85
1892.....	103,410 39	10,864 61	9,782 79	29,694 35	159,752 14
1893 .....	108,060 67	12,524 09	9,328 62	28,320 72	158,234 10
1894 .....	111,460 03	12,690 80	7,875 79	28,040 18	160,066 80
1895.....	110,765 27	12,919 32	9,285 13	30,598 27	163,567 99
1896.....	98,048 95	13,602 88	9,745 50	32,992 44	154,389 77
1897.....	102,083 50	13,454 50	9,809 00	32,157 00	157,504 00
1898 .....	103,730 00	13,746 00	10,188 00	31,795 00	159,459 00
1899 .....	106,598 50	13,514 50	7,822 00	32,065 00	160,000 00
1900.....	101,448 00	13,562 50	10,589 00	33,203 00	158,802 50
1901.....	101,024 50	13,420 50	8,335 50	33,161 50	155,942 00
Total .....	2,019,040 89	304,596 37	207,855 57	624,620 60	3,156,113 43

## SESSIONAL PAPER No. 22

List of Vessels which received Fishing Bounty for the Year 1901.

## PROVINCE OF NOVA SCOTIA.

## ANNAPOLIS COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	Number of Crew paid.	Amount of Bounty paid.
							\$ cts.
85396	Brant.....	Windsor...	12	Amos B. Lewis.....	Port Lorne.....	4	40 00
107478	Jessie C.....	Digby.....	10	Lewis Labeau.....	".....	2	24 00
83461	Josie L. Day....	".....	16	Albert Coates.....	Hillsburn.....	3	37 00
85534	Lloyd.....	Yarmouth.....	23	W. H. Anderson.....	Annapolis.....	9	86 00
94732	Only Son.....	Windsor.....	13	James D. Aldred.....	Margaretville....	3	34 00
83253	Rescue.....	Annapolis.....	17	Josiah Burrell.....	Clementsport.....	5	52 00
100539	Rowena.....	Digby.....	10	John Peters.....	Litchfield.....	3	31 00
107203	S. C. H.....	Annapolis.....	49	John S. Hayden.....	Victoria Beach....	8	105 00

## ANTIGONISH COUNTY.

90642	Komaroff.....	Yarmouth.....	10	John Brow.....	H'b'r au Bouche..	2	24 00
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## CAPE BRETON COUNTY.

100389	Annie F.....	Sydney.....	13	John Farrell.....	Main à Dieu.....	3	34 00
100372	Betsy Jane.....	".....	11	Samuel Moore.....	Little Bras d'Or..	4	39 00
83381	Champion.....	".....	19	John Williams.....	Louisburg.....	4	47 00
100383	Florence L.....	".....	10	Vital Arsenaault..	Little Bras d'Or..	4	38 00
85382	(f. H. Marryatt..	Halifax.....	24	Ambrose Allen.....	North Sydney....	1	31 00
100381	Katie B.....	Sydney.....	24	John H. Burke.....	Little Lorraine....	7	73 00
103458	K. McKenzie.....	Arichat.....	17	John Peach.....	Port Morien.....	6	59 00
107374	Leah Hardy.....	Sydney.....	20	Wm. McDonald.....	Gabarus.....	5	55 00
88463	Maria.....	Arichat.....	14	Henry MacDonald..	Little Glace Bay ..	4	42 00
107358	Olive A.....	Sydney.....	19	Robert B. Spencer..	Port Morien.....	2	33 00
107360	Ovando.....	".....	11	Patrick Campbell..	Main à Dieu.....	4	39 00
100566	Rob S.....	Halifax.....	21	Lewis Dickson.....	Louisburg.....	5	56 00
107376	Rozzie.....	Sydney.....	17	Joseph Degaut.....	Little Bras d'Or..	7	66 00
107358	Victoria.....	".....	11	Theodore Martell..	Little Glace Bay ..	4	39 00

## DIGBY COUNTY.

83431	Acadian.....	Weymouth.....	32	Edwin Haynes.....	Freeport.....	10	102 00
107476	Addie B.....	Digby.....	13	Charles Bailey Sr..	Westport.....	5	48 00
111528	Alert.....	".....	11	Stephen A. Doucette..	Mavillette.....	4	30 00
88598	Alph. B. Parker..	St. John.....	47	Holland Outhouse..	Tiverton.....	13	138 00
111524	Annie Laurie*....	Digby.....	10	Stephen Perry.....	Freeport.....	3	29 50
111524	Annie Laurie.....	".....	10	".....	".....	3	31 00
90655	Annina.....	Yarmouth.....	12	Benjamin Thurber..	".....	6	54 00
94698	Carrie H.....	Digby.....	20	James Gower.....	Westport.....	5	55 00
74331	Condor.....	".....	11	Howard Titus.....	".....	6	53 00
103181	Curlew.....	".....	63	Joseph F. Milbury..	Digby.....	12	147 00
107112	Daisy Linden.....	".....	80	O. & O. Sproul.....	".....	18	206 00
77740	Elmer.....	".....	15	John W. Snow.....	".....	3	36 00
103749	Emerald.....	".....	29	John H. Syda.....	".....	7	78 00
107604	Emma D.....	Weymouth.....	20	Frank S. Doucette..	Cape St. Mary....	7	69 00
107475	Ethel May.....	Digby.....	16	R. E. Hudson.....	Digby.....	2	30 00
75757	Etta.....	Yarmouth.....	17	Clarence Webber....	Westport.....	3	38 00
111527	Etta H.....	Digby.....	10	Edward Welch.....	".....	4	38 00
94707	Ernest F. Norwood.	".....	79	Joseph E. Snow.....	Digby.....	7	128 00

\*For 1900.

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LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*DIGBY COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts
74329	Fairy Queen	Yarmouth	13	Wallace Coggins	Westport	6	55 00
100891	Fleur de Lis	Weymouth	17	Charles W. Pyne	Beaver River	5	52 00
80798	Freddie G	Digby	18	George Gower	Westport	8	74 00
100815	Freddie A	Yarmouth	10	Norman Gregory	Digby	3	31 40
77963	Freeman Colgate	St. Stephen	26	Thomas Hicks	Westport	10	96 00
90436	Genesta	Barrington	32	George Denton	"	16	144 00
94835	Georgie Linwood	Digby	25	Herbert Johnson	Digby	7	74 00
107480	Hattie & Eva	Digby	11	Edwin Hains	Freeport	4	39 00
100544	Helen Maud	"	26	Charles McDormand	Westport	8	82 00
111530	Island Girl	"	10	Eddie S. Doucette	Cape St. Mary	3	31 00
100064	Isma	St. John	31	Stewart Hicks	Westport	10	101 10
111525	James W. Cousins	Digby	80	Joseph F. Milbury	Digby	23	241 00
77957	Kedron	Annapolis	22	John W. Snow	"	3	43 00
88407	Linnett	Digby	15	William Frost	Whale Cove	5	50 00
100487	Mabel B	"	57	Charles Finigan	Freeport	14	155 00
107603	Mabel M	Weymouth	20	Leazine Boudreau	Mavillette	5	55 00
107479	Marguerite	Digby	24	D. & O. Sproule	Digby	6	66 00
88583	Mary O'Dell	Yarmouth	14	John T. Therrio	Meteghan	6	56 00
103184	Mayflower	Shelburne	26	Calvin Stevens	Freeport	8	82 00
107477	Maudie Ellen	Digby	14	D. & O. Sproul	Digby	5	49 00
100574	Melrose	Lunenburg	71	Aug. J. Haycock	Westport	15	176 00
111831	Mildred K	Digby	35	Edward Keans	Digby	6	77 00
100895	New Home	Weymouth	31	Moses Thibodeau	Church Point	12	115 00
94825	On Time	"	19	Turner Guthrie	Whale Cove	7	68 00
111471	Quickstep	Arichat	80	D. & O. Sproul	Digby	20	220 00
111834	Rosan	Digby	11	Frank J. Doucette	Cape St. Mary	4	39 00
111835	Roxana	"	11	Thomas Pugh	Westport	4	39 00
85558	S. A. Crowell	Yarmouth	23	Wallace Gower	"	8	79 00
111529	Spray	Digby	12	Benj. Taylor	Smith's Cove	2	26 00
100609	Swan	Shelburne	56	Milton Hains	Freeport	14	154 00
94694	Utah and Eunice	Digby	33	"	"	9	96 00
103711	Venite	Yarmouth	16	Jesse Ellis	Mavillette	5	51 00
94832	Venus	St. Andrews	42	Edwin Hains	Freeport	14	140 00
103704	Whisper	Yarmouth	31	Wm. McGrath	Digby	7	80 00
100543	W. Parnell O'Hara	Digby	79	Edgar Post	"	18	205 00

## GUYSBORO' COUNTY.

100839	Acalia	Lunenburg	34	John Cousins	Canso	8	90 00
90866	Alice	Halifax	12	Simeon Baker	Liscomb	3	33 00
107992	Alice J. Davis	Canso	20	Edward Hearn	Canso	8	76 00
90426	Amanda	Barrington	38	F. H. Hawes	"	8	94 00
100813	Blanche	"	24	Charles G. Riley	West Liscomb	3	45 00
96923	Cardigan	Charlottetown	37	Joseph Fougère	Larry's River	7	86 00
103321	Christie Campbell	Port Hawk'bury	55	Thos. H. Peeples	Mulgrave	4	83 00
38418	Dolphin	Arichat	36	W. S. Peart	Guysboro'	2	50 00
103328	Ella May	Port Hawk'bury	34	James P. Carr	Steep Creek	5	69 00
80994	Eperance	Guysboro'	10	Frederick Myers	Cole Harbour	2	24 00
107993	Florence May	Canso	11	W. G. Matthews	Canso	5	46 00
83180	Friend	Halifax	17	Edward Munroe	White Head	7	66 00
107997	Gertie Bell	Canso	15	William Dignon	"	5	50 00
94963	Golden Seal	Halifax	32	Edward B. Pelrine	Larry's River	5	67 00
107996	Green Linnet	Canso	12	John G. Jones	Cook's Cove	4	40 00
100815	Happy Home	Barrington	10	Samuel Snow	Up. White Head	5	45 00
100835	Lottie B	Lunenburg	12	Thomas Boudrot	Dover	5	47 00
107995	Maggie M. F.	Canso	15	James Fitzgerald	Queensport	5	50 00
103859	Mary May	Halifax	23	Ben David	Port Felix	5	58 00
100446	Minnie May	Canso	12	Wm. L. Dort	Sandy Cove	5	47 00
100450	Minto	"	18	Wm. O'Hara	Canso	6	60 00
107998	Money Bush	"	15	Thomas Richard	Port Felix	7	64 00

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List of Vessels which received Fishing Bounty, &amp;c.—Nova Scotia—Con.

## GUYSBORO COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts.
103323	Nita .....	Port Hawk'bury	22	Lewis Maguire .....	Mulgrave .....	2	36 00
80970	Orion .....	Halifax .....	23	Edward B. Pelrine .....	Larry's River .....	4	51 00
100241	Pansy .....	" .....	32	George Pace .....	Marie Joseph .....	7	81 00
100231	Pearl .....	" .....	17	Martin Meagher .....	Canso .....	3	38 00
92663	Prince Edward .....	Ottawa .....	18	Daniel Casey .....	Raspberry .....	5	58 00
107318	St. Stephen .....	Halifax .....	19	Vincent Pelrine .....	Port Felix .....	4	47 00
100444	Stella May .....	Canso .....	12	James Meagher .....	Canso .....	6	54 00
100448	Surprise .....	" .....	15	John J. Meagher .....	" .....	6	57 00
103199	Trilby .....	" .....	12	Edward Flaherty .....	" .....	5	47 00
107994	True Love .....	" .....	10	David Walsh .....	" .....	3	31 00
107991	Two Brothers .....	" .....	14	Frederick Jellow .....	Port Felix .....	5	49 00

## HALIFAX COUNTY.

103507	Annie .....	Halifax .....	16	Charles Covey .....	Indian Harbour .....	3	37 00
103858	B. and B. Holland .....	" .....	26	Richard Holland .....	Duncan's Cove .....	8	82 00
94662	Bessie Florence .....	" .....	12	Charles W. Twohig .....	Pennant .....	4	40 00
90196	Black Prince .....	" .....	18	George Julien .....	W. Chezzetcook .....	3	39 00
103537	Bonaccord .....	" .....	12	James W. Smith .....	Sambro .....	2	26 00
94643	Carrie M. C. .....	Lunenburg .....	39	Simeon Coolen .....	Hubbard's Cove .....	7	88 00
100819	David James .....	Halifax .....	27	John C. Martin .....	Ketch Harbour .....	11	104 00
103852	Dawn .....	" .....	13	James Parker .....	Owl's Head .....	2	27 00
59484	Dayspring .....	" .....	36	George L. Baker .....	Jeddore .....	9	99 00
90481	Ella D. .....	" .....	32	Archibald Darrach, sr. .....	Herring Cove .....	8	88 00
90726	Ellen Maud .....	" .....	16	Arthur K. Whiston .....	Halifax .....	5	51 00
103492	Emily L. .....	Lunenburg .....	10	John F. Ryan .....	" .....	3	31 00
107320	Eva Gertrude .....	Halifax .....	34	Andrew Sullivan .....	Herring Cove .....	10	104 00
92564	Evangeline .....	" .....	23	Lewis Murphy .....	E. Ship Harbour .....	2	37 00
100247	Fairy Queen .....	" .....	11	George H. Nickerson .....	Pennant .....	3	32 00
100259	Florence G. .....	" .....	15	Caleb Gray .....	Sambro .....	5	50 00
85644	Flora .....	" .....	42	Simeon Boutillier .....	French Village .....	9	105 00
107330	Gertie M. Starr .....	" .....	16	Wm. Murphy .....	Halifax .....	3	37 00
97088	Glendale .....	Lunenburg .....	39	Chas. Nieforth et al. .....	Seaforth .....	11	116 00
107319	Globe .....	Halifax .....	32	Charles W. Hart .....	Sambro .....	10	102 00
100228	Golden Dawn .....	" .....	46	George J. Conrod .....	E. Chezzetcook .....	9	109 00
103544	Grace D. .....	" .....	10	James Marryatt .....	Pennant .....	3	31 00
88220	Grande .....	" .....	14	Jeremiah Slaunwhite .....	Terence Bay .....	3	35 00
103174	Iona .....	" .....	15	Leander Hubley .....	Indian Harbour .....	5	50 00
107983	John J. Hayes .....	" .....	56	Edward Hayes .....	Herring Cove .....	14	154 00
100216	Katie M. .....	" .....	11	Charles Nelson .....	Halifax .....	3	32 00
103812	Laura .....	P. Hawkesbury .....	13	Thomas Hooper et al. .....	Tangier .....	3	34 00
94665	Louis Luby .....	Halifax .....	41	Martin Julien et al. .....	W. Chezzetcook .....	15	146 00
107654	Lottie May .....	Lunenburg .....	40	George Schnare .....	Pennant .....	6	82 00
100580	Maggie E. C. .....	Halifax .....	20	David F. Covey .....	Hagget's Cove .....	7	69 00
96905	Maggie May .....	" .....	62	Daniel Fills et al. .....	W. Chezzetcook .....	8	118 00
100227	May .....	" .....	10	Edward Little .....	Terence Bay .....	3	31 00
100254	Myrtle M. Gray .....	" .....	19	James Gray .....	Pennant .....	7	68 00
85665	Nellie D. .....	" .....	12	James Crooks .....	Halifax .....	3	33 00
94667	Nettie M. G. .....	" .....	32	Matthew Lynch .....	Ferguson's Cove .....	5	67 00
103539	Neva .....	" .....	11	Ephraim Marryatt .....	Pennant .....	4	39 00
92571	Primrose .....	" .....	14	Angus Gray .....	" .....	5	49 00
94677	Progress .....	" .....	14	David Richardson .....	Ship Harbour .....	3	35 00
100474	R. Beatrice .....	" .....	19	James Morash .....	West Dover .....	5	54 00
96406	Rising Sun .....	" .....	28	Richard Christian .....	Prospect .....	6	70 00
69082	Saint Agnes .....	" .....	38	Ebenezer Homans .....	Clam Harbour .....	3	59 00
100218	Sarah M. W. .....	" .....	14	D. M. Slaunwhite, et al. .....	Terence Bay .....	5	49 00
100255	Sea Flea .....	" .....	12	James Stevens .....	Owl's Head .....	4	40 00
107327	Sir Wilfrid .....	" .....	18	Charles Fader .....	Hd. Margarets B. .....	6	60 00
75833	Twilight .....	" .....	14	Ainsley Hubley .....	Boutillier's Cove .....	6	56 00
103869	Uganda .....	" .....	14	J. B. Stoddard .....	Ship Harbour .....	3	35 00



List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*HALIFAX COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts.
96781	Venture.....	Halifax.....	43	Edward V. Dempsey..	Herring Cove...	7	92 00
100260	Violet.....	".....	12	James H. Smith.....	Sambro.....	3	33 00
92578	Willetta.....	".....	12	Joseph Gray.....	".....	4	40 00
100226	Willie H. Crosby..	".....	65	James Julien et al....	W. Chezetcook..	6	107 00
53378	Zephir.....	".....	16	Robert J. Slaunwhite..	Terence Bay....	5	51 00

## HANTS COUNTY.

75614	Fawn.....	Digby.....	17	Henry E. Ogilvie....	Summerville....	2	31 00
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## INVERNESS COUNTY.

96778	Campania.....	Pt. Hawkesbury	11	C. Robin, Collas & Co.	Eastern Harbour	4	39 00
103313	Catherine.....	".....	10	Severin Chiasson, et al.	".....	4	38 00
96825	Cecelia W.....	Halifax.....	41	David Walker.....	Pt. Hawkesbury	6	83 00
83244	Claribel.....	Charlottetown..	19	Frederick Doucet....	Eastern Harbour	5	54 00
103325	Elizabeth Ann....	Pt. Hawkesbury	11	David Bourgeois....	".....	4	39 00
103542	Emma Brow.....	Halifax.....	17	Simcon Bellfontaine..	".....	5	52 00
96774	Florence.....	Pt. Hawkesbury	11	".....	".....	4	39 00
103317	Flying Star....	".....	11	".....	".....	4	39 00
103316	Laura.....	".....	10	Ubalde Bourgeois....	".....	4	38 00
103315	Lillie.....	".....	12	Peter Fiset.....	".....	4	40 00
96775	Louise.....	".....	11	Sim. Bellfontaine, et al.	".....	4	39 00
103330	Lucy.....	".....	11	Theophile Maillet....	Little River....	5	45 00
96779	Majestic.....	".....	12	C. Robin, Collas & Co.	Eastern Harbour	4	40 00
96771	Marie.....	".....	10	John Roach.....	".....	4	38 00
96777	Marie Joseph....	".....	11	Victor Roach.....	Cheticamp Pt....	5	46 00
103314	Mary.....	".....	10	Peter Fiset.....	Eastern Harbour	4	38 00
96769	Mary Lambert....	".....	11	Luke C. Chiasson....	Little River....	5	46 00
69125	May Flower.....	Halifax.....	20	Hyacinthe Chiasson..	".....	7	69 00
103326	Mizpah.....	Pt. Hawkesbury	10	George Lebrun.....	Eastern Harbour	4	38 00
96770	O. L. B.....	".....	12	David Chiasson.....	Grand Etang....	4	40 00
103329	Saint Helier....	".....	12	C. Robin, Collas & Co.	Eastern Harbour	4	40 00
96773	Virgin.....	".....	10	Michael Ramard.....	".....	4	32 00
96776	Willie B.....	".....	11	John F. Roach.....	Point Cross.....	4	39 00

## KING'S COUNTY.

83261	Economist.....	Digby.....	14	Jesse Parker.....	Hall's Harbour..	2	28 00
42089	Lily.....	St. Andrews....	10	Hantford Rawding....	Canada Creek...	2	24 00

## LUNENBURG COUNTY.

111641	Aguadilla.....	Lunenburg.....	80	Freeman Anderson....	Lunenburg.....	18	206 00
107953	Ahava.....	".....	80	Wm. C. Smith.....	".....	17	199 00
100846	Albatross.....	".....	26	Thomas Backman....	".....	6	68 00
107657	Alcaea.....	".....	80	Alex Knickle.....	".....	17	199 00
107644	Albertha.....	".....	80	Amiel Corkum.....	Middle La Have..	17	199 00
100489	Algoma.....	".....	56	Jeffery Publicover....	Getson's Cove....	14	154 00
111647	Alhambra.....	".....	80	Thomas Hamm.....	Lunenburg.....	14	199 00
107124	Alma Nelson....	".....	80	J. William Young....	".....	20	220 00
107955	Annie C. Hall....	".....	74	Adam Selig.....	Vogler's Cove....	18	200 00
100472	Arcana.....	".....	80	Alex. Knickle.....	Lunenburg.....	15	185 00
103495	Athlon.....	".....	80	Wm. C. Smith.....	".....	17	199 00
100170	Atlanta.....	".....	80	Freeman Anderson....	".....	17	199 00

## SESSIONAL PAPER No. 22

List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*LUNENBURG COUNTY—*Continued.*

Office Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty Paid.
							\$ cts.
103745	Avis.....	Lunenburg	80	A. V. Conrad.....	Park's Creek.....	18	206 00
111412	Baden-Powell..	"	80	Jessen Anderson.....	Lunenburg.....	19	213 00
103501	Barcelona.....	"	80	John M. Ritcey.....	Ritcey's Cove.....	18	206 00
103755	Basil M. Geldert..	"	80	Robert Geldert.....	Lunenburg.....	17	199 00
107130	Beatrice L. Corkum	"	80	Wm. C. Smith.....	".....	17	199 00
103503	B. G. Anderson..	"	80	Thomas Hamm.....	".....	17	199 00
100838	Blanche A. Colp..	"	80	C. U. Mader.....	Mahone Bay.....	17	199 00
94782	Bona Fides.....	"	80	J. Joseph Rudolf.....	Lunenburg.....	17	199 00
96828	Bonanza.....	"	80	Henry W. Adams.....	".....	15	185 00
100848	Britannia.....	"	59	Gabriel Moser.....	Middle La Have.....	14	157 00
100571	Britannia.....	"	80	Charles Smith.....	Lunenburg.....	17	199 00
103429	Cambrian.....	"	60	Dean Fralick.....	Pleasantville.....	15	165 00
103502	Carlaraine.....	"	80	Alvin Himmelman.....	Rose Bay.....	17	199 00
100579	Citizen.....	"	80	Murdoch McGregor.....	Ritcey's Cove.....	17	199 00
111415	Clara.....	"	80	Abraham Ernst.....	Mahone Bay.....	20	220 00
103415	Clarence Smith..	"	80	Wm. C. Smith.....	Lunenburg.....	17	199 00
107122	Collector.....	"	80	W. N. Reinhardt.....	La Have.....	17	199 00
111702	Colonia.....	"	80	Davis Westhaver.....	Lunenburg.....	19	213 00
103759	Columbia.....	"	80	J. Alex. Silver.....	".....	17	199 00
100834	Comrade.....	"	80	W. N. Reinhardt.....	La Have.....	17	199 00
107966	Companion.....	"	80	Jeffery Publicover.....	Getson's Cove.....	22	234 00
111650	Concord.....	"	70	James Getson.....	Getson's Point.....	18	205 00
111708	Crofton McLeod..	"	80	John W. McLean.....	Mahone Bay.....	17	199 00
100159	C. U. Mader.....	"	80	C. U. Mader.....	".....	17	199 00
111637	Cyril.....	"	80	Thomas A. Wilson.....	Bridgewater.....	17	199 00
88355	D. A. Mader.....	"	80	C. U. Mader.....	Mahone Bay.....	13	171 00
111405	Deeta M.....	"	80	John McLean.....	".....	16	192 00
111711	Defender.....	"	80	Alex. Knickle.....	Lunenburg.....	20	220 00
90855	Delta.....	"	25	E. Fenwick Zwicker.....	".....	8	81 00
111710	Demering.....	"	80	Jessen Anderson.....	".....	18	206 00
97089	Dictator.....	"	80	S. Watson Oxner.....	".....	17	199 00
90834	Diego.....	Port Medway	27	Harris Conrad.....	Vogler's Cove.....	8	83 00
107649	D. M. Owen.....	Lunenburg	72	J. Norman Rafuse.....	Conquerall Bank.....	15	177 00
107986	Dove.....	"	80	Wm. C. Acker.....	Lunenburg.....	17	199 00
83308	Ella.....	Liverpool	10	James C. Hanson.....	Mahone Bay.....	1	17 00
107127	Ellen L. Maxner..	Lunenburg	80	Henry W. Adams.....	Lunenburg.....	17	199 00
103424	Elva M.....	"	80	C. U. Mader.....	Mahone Bay.....	17	199 00
107123	Emulator.....	"	80	John M. Ritcey.....	Ritcey's Cove.....	17	199 00
100151	Erminie.....	"	80	E. Fenwick Zwicker.....	Lunenburg.....	17	199 00
103429	Fern.....	"	70	Edmen Walters.....	Middle La Have.....	15	175 00
103743	Flo. F. Mader.....	"	80	C. U. Mader.....	Mahone Bay.....	18	206 00
111406	Flora W. Sperry..	"	80	John D. Sperry.....	Petite Rivière.....	17	199 00
111401	Frances Willard..	"	80	Wm. C. Smith.....	Lunenburg.....	17	199 00
103753	Gladys B. Smith..	"	80	Benj. C. Smith.....	".....	20	220 00
103752	Glyndon.....	"	80	Benj. Wentzel.....	Ritcey's Cove.....	17	199 00
100850	Grace.....	"	80	Daniel Getson.....	Getson's Point.....	17	199 00
107289	G. S. Troop.....	"	80	L. B. Currie.....	La Have.....	17	199 00
107958	Guardian.....	"	80	Reuben Ritcey.....	Ritcey's Cove.....	18	206 00
111703	Harold.....	"	80	Abraham Ernst.....	Mahone Bay.....	18	206 00
107119	Harold J. Parks..	"	80	L. B. Currie.....	La Have.....	18	206 00
107951	Harry Lewis.....	"	80	Wm. C. Smith.....	Lunenburg.....	19	213 00
103744	Harry Smith.....	"	80	Henry Wilson.....	".....	18	206 00
107965	Hazel B. Moehrer..	"	72	Thomas Hamm.....	".....	15	177 00
111640	Hazel L. K.....	"	80	Thomas Hamm.....	".....	17	199 00
107641	Hattie L. M.....	"	80	Peter B. Zwicker.....	Mahone Bay.....	17	199 00
111418	H. H. Kitchener..	"	80	John W. Haughn.....	Middle La Have.....	18	206 00
107659	Hilda C.....	"	80	S. Watson Oxner.....	Lunenburg.....	19	213 00
111416	Hugh John.....	"	80	David Ritcey.....	Ritcey's Cove.....	22	234 00
107128	Huron.....	"	80	Henry Wilson.....	Lunenburg.....	17	199 00
107956	Iona.....	"	80	Murdoch McGregor.....	Ritcey's Cove.....	17	199 00
111638	Ivanhoe.....	"	80	Thomas A. Wilson.....	Bridgewater.....	18	206 00

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	Number of Crew paid.	Amount of Bounty paid. \$ cts.
107116	Ivy.....	Lunenburg...	12	Joshua Ernst...	Pleasantville...	2	58 00
96830	J. A. Silver.....	"	80	Charles L. Silver...	Lunenburg...	17	199 00
103414	Jeanie Myrtle.....	"	80	John M. Ritcey...	Ritcey's Cove...	17	199 00
103491	Jennie May.....	"	80	Martin B. Westhaver...	Lunenburg...	15	185 00
100837	J. M. Young.....	"	80	J. William Young...	"	17	199 00
107960	J. W. Mills.....	"	76	J. W. Mills.....	Mahone Bay...	17	195 00
107969	Kandahar.....	"	80	Wm. C. Smith.....	Lunenburg...	17	199 00
107970	Karmoe.....	"	80	Horatio Ritcey...	Ritcey's Cove...	18	206 00
111404	Kimberley.....	"	80	C. U. Mader.....	Mahone Bay...	17	199 00
111410	Kuvera.....	"	80	James Young.....	Lunenburg...	19	213 00
96838	La France.....	"	80	S. Watson Oxner.....	Lunenburg...	17	199 00
111635	Latooka.....	"	80	A. V. Conrad.....	Park's Creek...	17	199 00
94788	Laura C. Zwicker.....	"	80	Joshua E. Backman...	Lunenburg...	18	206 00
94780	Lawrence.....	"	80	Abraham Selig.....	Mahone Bay...	20	220 00
107126	Lena F. Oxner.....	"	80	James Geldert.....	Lunenburg...	17	199 00
107660	Lila D. Young.....	"	80	John B. Young.....	"	17	190 00
107129	Lilla B. Hirtle.....	"	80	Benjamin Anderson.....	"	19	206 00
103760	Lillian.....	"	80	Elias Richard, Sr.....	Getson's Cove...	17	199 00
107113	L. Morton.....	"	60	Adam Selig.....	Vogler's Cove...	15	165 00
83316	Lottie.....	Port Medway...	80	S. E. Teel.....	"	19	213 00
111634	Loyal.....	Lunenburg...	80	Abraham Ernst.....	Mahone Bay...	18	206 00
103420	Luetta.....	"	80	Isaac Mason.....	Lunenburg...	18	206 00
107120	Madeira.....	"	80	Theophilus Creaser.....	Ritcey's Cove...	18	206 00
103509	Maggie E. Z.....	"	70	Emanuel Zellers.....	Lunenburg...	17	189 00
97100	Maggie M. W.....	"	80	Howard Wynacht.....	"	17	19 00
103425	Majestic.....	"	80	Reuben Ritcey.....	Ritcey's Cove...	17	199 00
111709	Mariner.....	"	80	James Wamback.....	Lunenburg...	17	199 00
107652	Mascot.....	"	80	Charles Hewett.....	"	15	185 00
107967	May Myree.....	"	80	Wm. Richard.....	Getson's Point...	20	220 00
100849	Merl M. Parks.....	"	80	James Wamback.....	Lunenburg...	17	199 00
107650	Mildred.....	"	80	Abraham Ernst.....	Mahone Bay...	18	206 00
107111	Millie Mace.....	"	80	Wm. C. Smith.....	Lunenburg...	17	199 00
100153	Milo.....	"	80	Christian Geldert.....	"	12	164 00
111408	Mindoro.....	"	80	Isaac Zink.....	Ritcey's Cove...	17	199 00
103412	Minnie B.....	"	25	Wm. Selig.....	Vogler's Cove...	8	81 00
103757	Minnie J. Heckman.....	"	80	Murdoch McGregor.....	Ritcey's Cove...	20	220 00
107952	Minnie M. Cook.....	"	80	Wm. C. Smith.....	Lunenburg...	20	220 00
107121	Minto.....	"	80	Daniel Zink.....	"	19	213 00
111701	Mizpah.....	"	80	Wm. Young.....	"	18	206 00
107961	Monitor.....	"	80	J. Joseph Rudolf.....	"	18	206 00
111645	Moran.....	"	80	Elias Richard.....	Getson's Point...	18	206 00
103758	Muriel.....	"	80	Elias Walters.....	Lunenburg...	14	178 00
107968	New Era.....	"	80	Howard Wynacht.....	"	19	213 00
111644	Nimrod.....	"	80	John D. Sperry.....	Petite Rivière...	17	199 00
92636	Nonpareil.....	"	80	E. Fenwick Zwicker.....	Lunenburg...	17	199 00
88342	Nova Zembla.....	"	79	C. U. Mader.....	Mahone Bay...	13	170 00
61916	Only Son.....	Liverpool...	16	John Geldert.....	Lunenburg...	5	51 00
111704	Ophir.....	Lunenburg...	80	Edwin Eikle.....	Petite Rivière...	17	199 00
100245	Oracle.....	Halifax...	18	Daniel Wolfe.....	West Dublin...	3	39 00
111639	Pacific.....	Lunenburg...	80	J. F. Risser.....	Ritcey's Cove...	17	199 00
111642	Palatia.....	"	80	Charles L. Silver.....	Lunenburg...	18	206 00
100836	Panama.....	"	80	Henry Adams.....	"	17	199 00
111414	Pearl Eveline.....	"	80	Freeman Himmelman.....	"	17	199 00
111712	Peerless.....	"	80	Arthur H. Zwicker.....	"	17	199 00
103747	Perfect.....	"	54	John Schmeisser.....	Middle La Have...	15	159 00
111417	Pilgrim.....	"	80	Thomas A. Wilson.....	Bridgewater...	18	206 00
107655	Premier.....	"	80	James Wamback.....	Lunenburg...	17	199 00
111402	Protector.....	"	80	Thomas A. Wilson.....	Bridgewater...	18	206 00
111646	Quissetta.....	"	80	James A. Hirtle.....	Lunenburg...	17	199 00
107959	Reliance.....	"	80	Artemas Zinck.....	Ritcey's Cove...	17	199 00
107653	Renown.....	"	80	Wm. C. Smith.....	Lunenburg...	17	199 00

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LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*LUNENBURG COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
111648	Riviera.....	Lunenburg.....	80	Robert Dawson.....	Bridgewater.....	20	220 00
96834	Robert F. Mason..	"	80	Wm. C. Smith.....	Lunenburg.....	17	199 00
107125	Roma.....	"	80	Gabriel Himmelman..	Middle South.....	18	206 00
100572	Rowena.....	"	51	Wm. Schneisser.....	Middle La Have..	14	149 00
111643	Scintilla.....	"	80	Wm. C. Smith.....	Lunenburg.....	18	206 00
100471	Secret.....	"	80	John B. Young.....	"	17	199 00
107963	Shamrock.....	"	80	Alex. Knickle.....	"	17	199 00
111413	Sigdrifa.....	"	13	Wm. Westhaver.....	"	3	34 00
100165	Snow Queen.....	"	67	Leander Meisner.....	Martin's Point..	14	165 00
111407	Strathcona.....	"	80	Freeman Anderson..	Lunenburg.....	17	199 00
107167	St. Clair.....	"	80	Charles Smith.....	"	17	199 00
103500	St. Helena.....	"	80	Howark Wynacht.....	"	17	199 00
107648	St. Vincent.....	"	78	Edmen Walters.....	Middle La Have..	19	211 00
103754	Talmouth.....	"	80	F. S. Messenger.....	Petite Rivière..	17	199 00
111636	Tasmania.....	"	80	Howard Wynacht.....	Lunenburg.....	17	199 00
111707	Tidal Wave.....	"	75	J. Norman Rafuse....	Conquerall Bank	15	180 00
107651	Torato.....	"	80	J. Wm. Young.....	Lunenburg.....	17	199 00
100575	Tyler.....	"	54	Wm. C. Smith.....	"	13	145 00
107958	Ungava.....	"	80	Wm. Cleversy.....	Pleasantville..	21	227 00
103742	Unique.....	"	80	Abraham Ernst.....	Mahone Bay.....	17	199 00
103417	Uruguay.....	"	80	Elijah Ritcey.....	Ritcey's Cove...	18	206 00
107964	Vernie May.....	"	76	Abraham Ernst.....	Mahone Bay.....	17	195 00
111409	Victoria.....	"	80	W. N. Reinhardt.....	La Have.....	18	206 00
103504	Viking.....	"	80	Artemas Schnare....	Lunenburg.....	17	199 00
100152	Werra.....	"	80	E. Fenwick Zwicker..	"	17	199 00
111403	Willie C.....	"	80	Amiel Corkum.....	Middle La Have..	19	213 00
96829	Wisteria.....	"	80	Freeman Anderson..	Lunenburg.....	17	199 00
111649	W. S. Wynot.....	"	80	C. U. Mader.....	Mahone Bay.....	17	199 00
107645	Yosemite.....	"	80	Kenneth Silver.....	Dayspring.....	17	199 00
111419	Yukon.....	"	80	Elijah Ritcey.....	Ritcey's Cove...	17	199 00

## QUEEN'S COUNTY.

100607	Icelda.....	Shelburne.....	19	John E. McDonald...	Port Joli.....	5	54 00
83134	Infant.....	Lunenburg.....	15	Wm. J. Wagner.....	Summerville.....	4	43 00
103191	Jennie B.....	Liverpool.....	13	Jabish Vogler.....	Port Joli.....	4	41 00
54132	John Franklin..	Halifax.....	18	Andrew McNutt.....	Liverpool.....	5	53 00
94833	News Boy.....	Liverpool.....	16	Alexander Shankle..	Port Mouton.....	4	44 00
103194	Oressa.....	"	10	Joseph Hagan.....	Hunt's Point...	3	31 00
100608	Vesper.....	Shelburne.....	14	Isaiah Huskins.....	Port Mouton.....	5	49 00

## RICHMOND COUNTY.

36474	Alexander Fraser..	Lunenburg.....	32	Anselm Sampson.....	River Bourgeois.	9	95 00
88456	Alice May.....	Arichat.....	39	Wm. LeVesconte.....	"	10	109 00
103463	Annie May.....	"	11	Placide Dugas.....	"	3	32 00
111472	Annie May.....	"	17	Jas. Monbourquette..	Rockdale.....	4	45 00
75561	Boreas.....	Lunenburg.....	41	John Colford.....	Port Richmond..	8	97 00
90721	Brilliant Star..	Halifax.....	36	Isidore Fougere.....	Poultamond.....	11	113 00
54156	British Lady.....	"	19	Albert Joyce.....	Riv. Inhabitants	1	26 00
74100	Candid.....	Arichat.....	23	Desiré Burke, sr.....	River Bourgeois.	8	79 00
72061	C. P. M.....	"	22	Alexander Burk.....	"	6	64 00
88462	Fanny S.....	"	28	Andrew Fougere.....	"	8	84 00
88599	Guide.....	Halifax.....	38	Edward Poirier.....	Lr. D'Esconsse..	12	122 00
111474	Howler.....	Arichat.....	15	Lambert Lavache.....	West Arichat...	2	29 00
88513	Ida.....	Sydney.....	11	Vital LeBlanc.....	River Bourgeois.	5	46 00

List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*RICHMOND COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts.
96764	Ida C. Spofford.	Port Ha'kesbury	54	Robert Murray.	Port Richmond..	7	103 00
103470	Ida M. Burke.	Arichat.	16	Sam Burke.	St. Peters	5	51 00
111476	Indiana.	"	11	Joseph Petitpas.	Arichat.	3	32 00
100490	Irene M. B.	Lunenburg	66	Frederick Poirier.	D'Escousse.	16	178 00
46294	Janett.	Halifax.	32	John B. Girroir.	West Arichat.	5	67 00
83135	J. B. M.	"	20	John Landry.	Petit de Grat.	5	55 00
88454	Jubilee.	Arichat.	34	Arthur Poirier.	D'Escousse.	11	111 00
103469	Katie B.	"	16	John Burke.	River Bourgeois.	6	58 00
111480	Lady Laurier	"	12	Simon A. Boudrot.	Petit de Grat.	5	47 00
38516	Lady of the Lake.	"	26	Peter Landry.	St. Peters	6	68 00
61615	Laura Cox.	Guysboro.	49	Alex. E. Morrison	D'Escousse	14	147 00
88455	Laura Victoria.	Arichat.	39	Henry McDonald	"	12	123 00
96763	Lelia Linwood.	"	67	Wm. Le Vesconte.	River Bourgeois.	16	179 00
111901	Lillian Louise.	"	12	Charles P. Boudrot.	Petit de Grat	5	47 00
103467	Lizzie May.	"	12	Abram Fougere.	River Bourgeois.	5	47 00
72071	Lumen Diei	"	20	Urban Sampson.	"	5	55 00
103532	Maria A.	"	22	John Walker.	Basin Riv. Inh'b	2	36 00
38522	Mary.	"	23	Isaie Boudrot.	River Bourgeois.	7	72 00
75577	Mary Ann Bell	Lunenburg	33	Isaac Dugas.	West Arichat.	5	68 00
111479	Mary Atlanta.	Arichat.	15	Peter Bouchard.	River Bourgeois.	4	43 00
111475	Mary Matilda	"	15	Maurice Burke.	St. Peters	6	57 00
103462	Maud.	"	16	Henry Duyon.	Arichat.	4	44 00
111904	Minnie L.	"	15	Elias Bois	Petit de Grat.	5	50 00
74365	Nova Stella.	"	53	Leon Poirier.	D'Escousse	16	165 00
61630	Olive J.	Halifax.	57	John Malcolm	Port Malcolm	5	92 00
85562	Oresa.	"	14	John F. Proctor	"	1	21 00
72067	Philomene D	Arichat.	22	John Pelham	Janvrin Island.	5	57 00
100477	Pilot	Lunenburg	42	Wm. Proctor	Riv. Inhabitants	6	84 00
69193	Star.	Halifax.	33	David Goyetche.	Cape August.	6	75 00
111903	Stella	Arichat.	14	Can'il Bouchie, sr.	River Bourgeois.	2	28 00
103461	St. Lidwina	"	11	Benjamin Peters.	L'Ardoise.	5	46 00
103464	St. Patrick.	"	27	Thomas Clannon	"	7	76 00
111902	St. Thomas.	"	10	Thomas Pottie	Rockdale	4	38 00
92599	Thistle.	Sydney	11	Robert Monbouquette	L'Ardoise W.	5	46 00
103460	Two Brothers.	Arichat.	18	Maurice Peters	L'Ardoise	7	67 00
71034	Vanguard.	"	51	Thomas Boudrot	Petit de Grat.	8	107 00
38523	Victoria.	"	24	Henry Burke.	St. Peters	7	73 00
57662	Village Bride	Halifax.	24	John D. Malcolm	Port Malcolm.	5	59 00

## SHELBURNE COUNTY.

97034	A. D'E.....	Yarmouth.....	15	Fred. Greenwood.....	Shag Harbour.....	7	64 00
103793	Agatha.....	Shelburne.....	80	John H. Thorbourn.....	Sandy Point.....	21	227 00
111682	Alina.....	"	80	John A. McGowan.....	Shelburne.....	19	213 00
100617	Altona.....	"	28	Austin Swansburg.....	Little Harbour.....	8	84 00
100612	Ardella.....	"	10	Eleazar Crowe.....	Sandy Point.....	4	38 00
107053	Bonnie Lin.....	Barrington.....	10	Handley C. Madden.....	Baccaro.....	6	52 00
103186	Brittania.....	Shelburne.....	11	Ross Enslow.....	West Green Hbr.....	6	53 00
61905	Champion.....	Liverpool.....	14	George L. Banks.....	Barrington.....	2	28 00
96970	Charlie Richardson.	Shelburne.....	26	John B. Harding, Sr.....	Rockland.....	8	82 00
103063	Defender.....	Yarmouth.....	20	Davis Jeffrey.....	Upper Wood H.....	8	76 00
107058	Defender.....	Barrington.....	20	Arch'd. D. Madden.....	Baccaro.....	5	55 00
103118	Della F. Tarr.....	St. Andrews.....	34	Samuel Greenwood.....	Port Saxon.....	8	90 00
107057	Dollie Varden.....	Barrington.....	10	Freeman Atwood.....	Atwood's Brooks.....	3	31 00
103053	Eddie C.....	Yarmouth.....	11	Amaziah Smith.....	Shag Harbour.....	4	39 00
96976	Edith.....	Shelburne.....	40	Enos Churchill.....	Lockeport.....	9	103 00
103060	Edith M.....	Yarmouth.....	20	George Hagar.....	N.W. Harbour.....	7	69 00
103789	Effie B. Nickerson..	Shelburne.....	22	Thos. C. Nickerson.....	Wood Harbour.....	9	85 00
77603	Eldon C.....	Barrington.....	27	Josiah Thomas.....	Cape Negro.....	10	97 00
103795	Etta Vaughn.....	Shelburne.....	80	B. P. Thorbourn.....	Sandy Point.....	22	234 00

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## LIST of Vessels which received Fishing Bounty, &amp;c.—Nova Scotia—Con.

## SHELBURNE COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts.
97036	Eva	Yarmouth	10	Lewis Wood	Wood Harbour	2	24 00
107034	Favourite	Barrington	28	Samuel S. Atwood	Barrington Head	6	70 00
85476	Fleetwing	Shelburne	15	Wm. McMillan	Lockeport	6	57 00
90645	Fly	Yarmouth	16	Wm. Wickens	Shag Harbour	3	37 00
100818	Geneva Ethel	Shelburne	29	James Benham	Lockeport	9	92 00
107342	Harry C. Ellis	Yarmouth	16	S. E. Countaway	N.E. Point	2	30 00
90647	Hattie Emeline	"	11	Charles A. Reynolds	Up. Pt. La Tour	4	39 00
85566	J. Lyons	Barrington	17	Wm. H. Nickerson	Cape Negro	7	66 00
94941	John Purney	Shelburne	80	George H. King	Sandy Point	21	227 00
73967	Katie	Liverpool	14	Churchill Locke	Lockeport	4	42 00
107981	Kestrel	Shelburne	80	George A. Cox	Shelburne	19	213 00
90438	Lark	Barrington	13	Thomas Ross, jr	Reynolds Croft	6	55 00
94661	L. C. Tough	Shelburne	12	Thomas Swain	Black Point	5	47 00
103796	Mabel Denvers	"	14	John H. Reynolds	Up. Pt. La Tour	5	49 00
103712	Marguerite	Yarmouth	10	George M. Forbes	Forbes Point	4	38 00
83493	Mary C.	Liverpool	80	John M. Harding	Osborne	8	136 00
83434	Mary May	Shelburne	20	Adam J. Firth	Shelburne	7	69 00
107988	Maud Churchill	"	80	Enos Churchill	Lockeport	22	234 00
103177	May Flower	"	12	Avard Hamilton	Carleton Village	5	47 00
111681	Mistral	"	80	George A. Cox	Shelburne	1	227 00
107985	Muriel	"	25	Edmund C. Locke	Lockenort	7	74 00
100606	Myra Louise	Barrington	17	Alexander Smith	Cape Negro	7	66 00
103175	Myrtle	Shelburne	10	Wm. E. Wolfe	Big Pt. Le Herb't	4	38 00
103800	Nellie J. King	"	80	George H. King	Sandy Point	19	213 00
90439	Oscar F.	Barrington	18	Clarence H. McKay	Roseway	6	60 00
100820	Ranger	"	11	Thomas R. Nickerson	Doctor's Cove	5	46 00
535-1	Roving Bird	Halifax	24	King Perry	N. E. Harbour	5	59 00
103783	Springwood	Shelburne	80	Wm. McMillan	Lockeport	22	234 00
90433	St. Anne	Barrington	11	John L. Nickerson	Forbes Point	4	39 00
107990	Terence C. Lockwood	Shelburne	80	Wm. McMillan	Lockeport	23	241 00
96961	Tivoli	"	24	Wm. J. Doane	Red Head	6	66 00
103716	Valkyrie	Yarmouth	11	David E. Watkins	Atwood's Brook	4	39 00
77744	Whip-poor-Will	Shelburne	17	John P. Littlewood	Ingomar	6	59 00
103183	Wren	"	22	Frederick McCarthy	Shelburne	7	71 00
75722	Yuba	Yarmouth	15	Josiah Nickerson	Up. Pt. La Tour	7	64 00

## VICTORIA COUNTY.

107372	Emerald	Sydney	15	W. J. Christie	North Sydney	6	57 00
83255	Floyd	Barrington	20	John Aisenault	Little Bras d'Or	8	76 00
97046	Fredona	Liverpool	12	Dan. Buchanan	Eel Cove	4	40 00
107375	Minnie B.	Sydney	10	James Brewer	South Inganish	5	45 00
107351	Wilfrid Laurier	"	10	Daniel McLeod	"	4	38 00

## YARMOUTH COUNTY.

107344	Amanda	Yarmouth	15	Henry Amiro	West Pubnico	4	43 00
80647	Annie M. Bell	"	64	Leander Amiro	L. E. Pubnico	20	204 00
94980	Aurora	"	80	Leon D'Eon	West Pubnico	20	220 00
103187	Ben Bolt	"	80	A. F. Stoneman	Yarmouth	16	192 00
107346	Caddie	"	10	James E. Perry	Port Maitland	4	38 00
103051	Carrie May	"	25	Fred. Murphy	Pubnico Head	6	67 00
94977	Civilian	"	80	Henry S. LeBlanc	West Pubnico	21	227 00
100605	Dawn	Barrington	49	Ferdinand Amiro	"	16	161 00
103066	Eddie J.	Yarmouth	23	Chs. L. D'Entremont	"	8	79 00

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LIST of Vessels which received Fishing Bounty &c.—Nova Scotia—*Con.*YARMOUTH COUNTY—*Concluded.*

Official Name.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	Number of Crew paid.	Amount of Bounty paid.
							\$ cts.
85683	Edith L. ....	Digby .....	16	James A. Adams. ....	Port Maitland. .	5	51 00
107332	Estelle. ....	Yarmouth .....	15	G. R. Straghan. ....	Lower Argyle. .	4	43 00
85551	Ethel. ....	" .....	80	J. H. Porter & Co. ....	Tusket Wedge. .	22	234 00
100536	Fair Play. ....	" .....	11	Joseph B. Lewis. ....	Yarmouth. ....	3	32 00
90654	Flora. ....	" .....	64	Arthur D'Entremont. .	West Pubnico. .	20	204 00
94972	Florence. ....	" .....	11	Eben Frost. ....	Mebourne. ....	6	53 00
90885	Georgina. ....	" .....	80	Henry Lewis. ....	Yarmouth. ....	23	234 00
80643	Hazel Dell. ....	" .....	80	James Amiro. ....	West Pubnico. .	21	227 00
85554	Hazel Glen. ....	" .....	80	H. T. D'Entremont. .	L. E. Pubnico. .	15	185 00
103717	Henry L. ....	" .....	10	A. C. D'Entremont. .	West Pubnico. .	1	17 00
103709	Lizzie E. ....	" .....	14	E. Juston Ellis. ....	Port Maitland. .	5	49 00
80614	Louise. ....	" .....	80	J. H. Porter & Co. ....	Tusket Wedge. .	18	206 00
103718	Lucy. ....	" .....	10	A. T. D'Entremont. .	West Pubnico. .	2	24 00
88596	M. A. Louis. ....	" .....	64	A. F. Stoneman. ....	Yarmouth. ....	18	190 00
107337	Marguerite. ....	" .....	57	L. P. D'Entremont. .	West Pubnico. .	17	176 00
103057	Mayflower. ....	Yarmouth .....	12	W. H. Amiro. ....	L. E. Pubnico. .	2	26 00
111523	Mildred P. ....	Digby .....	11	James W. Haskell. ....	Port Maitland. .	4	39 00
90659	N. A. Laura. ....	Yarmouth .....	59	Thadée D'Entremont. .	West Pubnico. .	19	192 00
103705	Nebula. ....	" .....	24	Sylvain A. D'Eon. ....	" .....	10	94 00
90892	Nellie. ....	" .....	59	J. H. Porter & Co. ....	Tusket Wedge. .	12	143 00
103706	Regine. ....	" .....	10	Tel. D'Entremont. .	West Pubnico. .	6	52 00
111521	Reta E. ....	Digby .....	10	Calvin Sollows. ....	Port Maitland. .	4	38 00
88549	Sanford. ....	Yarmouth .....	20	Wm. A. Killam. ....	Yarmouth. ....	5	55 00
83254	Sea Foam. ....	Annapolis .....	28	Leander Amiro. ....	L. E. Pubnico. .	11	105 00
75724	Sea Foam. ....	Yarmouth .....	75	J. H. Porter & Co. ....	Tusket Wedge. .	18	201 00
100323	Senora. ....	" .....	80	Marc A. Surette. ....	West Pubnico. .	22	234 00
107334	Shamrock. ....	" .....	17	Wm. S. Murphy. ....	Tusket Wedge. .	2	31 00
100313	Souvenir. ....	" .....	71	S. D. D'Entremont. .	West Pubnico. .	19	204 00
90896	Wapite. ....	" .....	80	A. F. Stoneman. ....	Yarmouth. ....	23	241 00
85559	Willie F. ....	" .....	12	Riley Haskell. ....	Port Maitland. .	6	54 00
90882	Will O'the Wisp. .	" .....	51	A. F. Stoneman. ....	Yarmouth. ....	17	170 00
90897	Wrasse. ....	" .....	56	A. F. Stoneman. ....	" .....	15	161 00

## PROVINCE OF NEW BRUNSWICK.

## CHARLOTTE COUNTY.

90660	Alice May. ....	Yarmouth .....	18	Calvados Brown. ....	Wilson's Beach. .	1	25 00
107807	America. ....	St. John. ....	16	James W. Ingersoll. .	Seal Cove. ....		16 00
83478	Argyle. ....	St. Andrews. .	10	Wm. Jas. Tucker. ....	Le Tete. ....	3	31 00
107439	Arminta. ....	" .....	15	J. L. Guptill. ....	Grand Harbour. .	2	29 00
107913	Arnold B. ....	" .....	10	Henry H. Cheney. ....	White Head. ....	2	24 00
107603	Augusta Evelyn. .	St. John. ....	31	James Scovil. ....	Flagg's Cove. ....	4	59 00
107903	Ava M. ....	St. Andrews. .	17	George A. Johnson. .	Woodward's Cove	5	52 00
103127	Avis C. Toby. ....	" .....	13	Jesse Guptill. ....	White Head. ....	4	41 00
64011	Bee. ....	" .....	18	Sherman Lawson. ....	Grand Manan. .	2	32 00
103128	Britannia. ....	" .....	22	Charles Sinclair. ....	Castalia. ....	4	50 00
107304	Clara A. Benner. .	" .....	37	Simon Brown. ....	Wilson's Beach. .	3	58 00
103114	Edward Morse. ....	" .....	32	Alexander Calder. ....	Campobello. ....	3	53 00
111522	Elizabeth. ....	Digby .....	21	Wm. Benson et al. ....	Seal Cove. ....	3	42 00
83202	Enchantress. ....	St. Andrews. .	10	Peter Dixon, sr. ....	North Head. ....	3	31 00
80803	Exemia. ....	Windsor. ....	18	Wm. F. Parker. ....	Beaver Harbour. .	1	25 00
88276	Falcon. ....	St. Andrews. .	12	John H. Cronk. ....	North Head. ....	5	47 00
83466	Fannie May. ....	" .....	19	Boardman Cheney. ....	White Head. ....	6	61 00
92511	Fleet Wing. ....	" .....	11	Aldin McFarland. ....	North Head. ....	3	32 00
107906	Flora. ....	" .....	14	Grant L. Dakin. ....	Grand Harbour. .	2	28 00
111552	Flora B. ....	" .....	13	Nelson Ingersoll. ....	Woodward's Cove	4	41 00

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## List of Vessels which received Fishing Bounty, &amp;c.—New Brunswick—Con.

## CHARLOTTE COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts.
107915	Freddie L.	St. Andrews	15	Charles E. Leighton	Grand Harbour	1	22 00
97146	Free Trade	"	10	L. C. Watt	North Head	3	31 00
107916	Glenita C.	"	12	Coleman E. Guptill	White Head	4	40 00
107432	Golden Rule	"	49	Mariner Calder et al.	Wilson's Beach	7	98 00
107910	Grace and Ethel	"	16	Robert Ingersoll	Woodward's Cove	6	58 00
111551	Guior	"	17	William M. Kent	"	4	45 00
94839	Harrie	"	14	John Kelly	Le Tête	1	21 00
83463	Havelock	"	33	Wm. James	Wilson's Beach	5	68 00
103119	Hortense	"	15	W. J. Morse	White Head	3	36 00
103121	Island Girl	"	17	Frank Ingersoll	North Head	3	38 00
103997	Jesse James	"	11	Josephine Franklyn	White Head	3	32 00
77766	Laconic	Shelburne	15	John Dixon, sr.	North Head	3	36 00
88273	Lillian E.	St. Andrews	13	Sanford Dakin	Beaver Harbour	1	20 00
59342	Lizzie S. McGee	"	14	Andrew McGee	Back Bay	4	42 00
92514	Maggie Jane	"	10	John Thomas	North Head	3	31 00
107912	Mary and Hilda	"	17	Wilmot Guptill	Grand Harbour	2	31 00
107438	Minnie H.	"	11	Chester Frankland	White Head	5	46 00
88402	Mizpah	Digby	53	E. Gaskill	North Head	1	60 00
88442	Mystery	St. Andrews	14	John K. Moses	"	5	49 00
107920	Nellie L.	"	17	Austin Levy	Grand Harbour	2	31 00
92518	Peril	"	18	Martin Eldridge	Beaver Harbour	2	32 00
103993	Pythian Knight	"	19	Frank Ingersoll	North Head	3	40 00
107904	Quoddy Queen	"	13	Harrington Guptill	White Head	3	34 00
83132	Restless	Digby	25	Robert Graham	Trout Cove	5	60 00
75591	Rise and Go	St. Andrews	16	Wm. Sirls	Wilson's Beach	1	23 00
107909	S. B.	"	12	Shadrach Bancroft	White Head	3	33 00
107433	Sir John	"	11	Hiram Morse	"	4	39 00
59387	Telephone	"	19	Wm. Brown, et al.	Wilson's Beach	3	40 00
107440	Three Links	"	12	Robert A. Main	Woodward's Cove	5	47 00
103998	Try Again	"	15	A. W. Ingersoll	"	3	36 00
88282	Veritas	"	10	Simon Leonard	Leonardville	1	17 00
103125	Virgin Queen	"	16	Nelson Morse	White Head	5	51 00
88264	Walter J. Clarke	Digby	20	E. C. Bowers	Westport	3	41 00
77969	Wave Queen	St. Andrews	11	Hiram W. Foster	Grand Harbour	4	39 00
107542	W. E. Gladstone	"	19	Loren Wilson	Seal Cove	1	26 00
107917	Zelma	"	17	Henry Frankland	White Head	5	52 00

## GLOUCESTER COUNTY.

72099	Adelina	Chatham	12	Clement Lanteigne	Lameque	4	40 00
103009	Adeline Gladys	"	12	Jos. N. LeBouthillier	Caraget	4	40 00
103081	Albatross	"	13	Thomas Ahier	Shippegan	3	34 00
100984	Alice	"	11	William Doucet	Caraget	4	39 00
103279	Alice Maud	"	10	C. Robin, Collas & Co.	"	4	38 00
97194	Aluka	"	12	Lange Paulin	Lameque	4	40 00
103763	Alouette	"	10	Thos. Ahier	Shippegan	4	38 00
103073	Anna	"	11	Luc. Friolet	Caraget	3	32 00
92419	Anna	"	12	Docihé Chiasson	Lameque	4	40 00
100960	Annie M.	"	11	W. S. Loggie & Co.	Chatham	3	32 00
100987	Arabi	"	12	Joseph F. Hebert	Caraget	3	33 00
103085	Argentina	"	12	C. Robin, Collas & Co.	"	3	33 00
96739	Argentine	"	14	Octave Paulin	"	4	42 00
100983	Bee	"	11	C. Robin, Collas & Co.	"	1	18 00
61431	Bee	"	11	Paul Noel	Lameque	4	39 00
103072	Ben Hur	"	11	John Leclerc	Caraget	6	53 00
72079	Betay	"	13	Wm. Fruing & Co.	Shippegan	4	41 00
100975	Big Bear	"	10	Robert Young	Caraget	3	31 00
100299	Blanchard	"	12	C. Robin, Collas & Co.	"	4	40 00
103639	Blenheim	"	13	"	"	4	41 00
103780	Britannia	"	13	Wm. Fruing & Co.	"	3	34 00



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LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*GLOUCESTER COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
100780	Britannic	Chatham	12	C. Hubbard	Caraquet	3	33 00
100988	Caesar	"	10	Philip Rive	"	3	31 00
100774	Calliope	"	12	"	"	4	40 00
103271	Celia	"	11	Dominique Gallien	"	4	39 00
103585	Cerdric	"	14	Philip Rive	"	4	42 00
100784	Charlotte	"	13	Robert Young	"	4	41 00
100789	Chazalie	"	11	"	"	3	32 00
96730	Christina	"	11	C. Robin, Collas & Co.	"	2	25 00
101000	Condor	"	10	Thos. Ahier	Shippegan	5	45 00
103083	Corsair	"	10	"	"	4	38 00
111465	C. R. C.	"	13	Peter Fiott	Caraquet	4	41 00
100916	Cygnat	"	12	C. Robin, Collas & Co.	"	5	47 00
100971	Cyprian	"	10	Elie Syvrét	"	4	38 00
100913	Daffodil	"	10	Thos. Ahier	Shippegan	3	31 00
100915	Dawn	"	12	C. Robin, Collas & Co.	Caraquet	4	40 00
103076	Dipper	"	12	W. S. Loggie & Co.	Chatham	4	40 00
92412	Dollie Dutton	"	13	John Jones	Little Lameque	4	41 00
103948	Dora	"	12	C. Robin, Collas & Co.	Caraquet	4	40 00
100999	Dove	"	11	Thomas Ahier	Shippegan	4	39 00
100998	Eagle	"	10	Thos. Ahier	Shippegan	4	38 00
103590	Eliza	"	13	C. Robin, Collas & Co.	Caraquet	4	41 00
100293	Eliza	"	15	Robert Young	"	5	50 00
96737	Elmina	"	11	Jacques Noel, sr.	Lameque	4	39 00
100911	Emperor	"	10	Thos. Ahier	Shippegan	4	38 00
100786	Empress	"	12	Robert Young	Caraquet	3	33 00
103776	Esk	"	14	"	"	4	42 00
100772	Estelle	"	13	Philip Rive	"	4	41 00
100787	Ethel	"	11	Robert Young	"	3	32 00
100905	Evangeline	"	10	Philip Rive	"	3	31 00
103001	Falcon	"	10	Thos. Ahier	Shippegan	4	38 00
103077	Fame	"	10	W. S. Loggie & Co.	Chatham	4	38 00
100298	Fisher	"	12	Elie Chiasson	Little Lameque	4	40 00
61445	Flavie	"	13	Theophile Duguay	Lameque	4	41 00
111468	Fleetwing	"	14	Wm Fruing & Co.	Caraquet	3	35 00
61405	Fly	"	11	Alex McLaughlin	Tracadie	4	39 00
100782	Flying Foam	"	12	Robert Young	Caraquet	8	33 00
100912	Foam	"	10	Joseph Z. Chiasson	"	4	38 00
111467	Four Brothers	"	13	Prosper S. Albert	"	4	41 00
100778	Gambetta	"	13	C. Hubbard	"	4	41 00
100954	Gazelle	"	10	"	"	3	31 00
111464	Gazelle	"	13	C. Robin, Collas & Co.	"	4	41 00
100968	Gem	"	11	"	"	3	32 00
103766	Genesta	"	12	Theotime Poirier	"	3	33 00
103282	Gilknockie	"	11	Robert Young	"	4	39 00
103086	Gipsy	"	20	W. S. Loggie & Co.	Chatham	3	41 00
100964	Gladstone	"	10	Philip Rive	Caraquet	3	31 00
100910	Gleaner	"	13	Luke Lanteigne	"	4	41 00
107775	Goldseeker	"	13	C. Roblin, Collas & Co.	"	3	34 00
92418	Grip	"	12	Gervais Chenard	"	5	47 00
100790	Guiding Star	"	11	Robert Young	"	3	32 00
100956	Harold N.	"	12	W. S. Loggie & Co.	Chatham	3	33 00
100994	Hercules	"	10	Pierre M. Lanteigne	Caraquet	3	31 00
103765	Hirondelle	"	11	Thos. Ahier	Shippegan	2	25 00
107771	Heron	"	13	Wm. Fruing & Co.	"	4	41 00
61425	Hope	New Carlisle	13	C. Robin, Collas & Co.	Caraquet	3	34 00
100903	Hope	Chatham	12	Robert Young	"	2	26 00
103939	Hope	"	11	Charles R-sle	Lameque	4	39 00
100906	Hotspur	"	10	Philip Rive	Caraquet	3	31 00
103779	Ibis	"	11	Wm. Fruing & Co.	Shippegan	3	32 00
103931	Irene	"	12	"	"	3	33 00
96724	Isabel	"	11	"	"	5	46 00
103289	Jersey Lily	"	12	Thomas Ahier	"	3	33 00
100958	John B.	"	11	W. S. Loggie & Co.	Chatham	4	39 00

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List of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*GLOUCESTER COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid. \$ cts.
100065	Josephine..	Chatham.	11	Philip Rive.	Caraquet..	3	32 00
111466	King Edward.	"	14	James X. Lanteigne..	"	5	49 00
103949	Kingfisher.	"	13	Wm. Fruing & Co.	Shippegan.	3	34 00
100981	Kite.	"	11	C. Robin, Collas & Co.	Caraquet..	4	39 00
103288	Kite.	"	10	Thos. Ahier.	Shippegan.	4	38 00
107774	Klondyke..	"	14	C. Robin, Collas & Co.	Caraquet..	5	49 00
103283	Koh-i-noor.	"	13	Philip Rive.	"	4	41 00
111461	Ladysmith.	"	17	Eugene Robichaud.	Shippegan Isl'd.	4	45 00
103003	Lark.	"	10	Thos. Ahier.	Shippegan.	4	38 00
107773	L'Etoile.	"	15	Prudent Gallien.	Caraquet..	5	50 00
100972	Lizzie D.	"	11	Robert Young.	"	4	39 00
100902	Lord Stanley.	"	10	Wm. Fruing & Co.	Shippegan.	3	31 00
100965	Majestic.	"	10	C. Hubbard.	Caraquet..	4	38 00
72100	Marie..	"	11	Onésime Chiasson.	Lameque..	4	39 00
107779	Marie.	"	15	Gaspard Savoy.	Shippegan.	5	50 00
103278	Marie Celia.	"	13	Patrick Blanchard.	Caraquet..	6	55 00
100292	Marie Joseph.	"	12	Lazare Gauvin.	Little Lameque.	4	40 00
100295	Marie Louise.	"	18	Joseph A. Paulin.	Caraquet..	4	46 00
103084	Mary Emma.	"	11	Wm Fruing & Co.	Shippegan.	4	39 00
100781	Mary Louise.	"	11	C. Hubbard.	Caraquet..	3	32 00
100957	Mary R.	"	12	W. S. Loggie & Co.	Chatham..	4	40 00
111844	Mary Star of the Sea.	"	14	Jos. N. LeBouthillier..	Caraquet..	4	42 00
103088	Max.	"	10	Maxime Cormier.	"	5	45 00
103768	Mayflower.	"	13	C. Robin, Collas & Co.	"	3	34 00
111462	Mayflower.	"	10	John A. Bizeau.	Miscou.	3	31 00
107777	May Flower.	"	11	Octave Benoit.	Little Lameque.	4	39 00
61447	Merida.	"	13	Ferdinand Duguay.	Shippegan.	5	48 00
100779	Mermmaid.	"	11	C. Hubbard.	Caraquet..	4	39 00
100300	Mikado.	"	13	C. Robin, Collas & Co.	"	4	41 00
88669	Morning Star.	"	12	Gustave Gionet.	St. Rose.	2	26 00
103004	Oriole.	"	11	Thos. Ahier.	Shippegan.	3	32 00
103005	Osprey.	"	10	"	"	3	31 00
100297	Palma.	"	14	Oliver Duguay.	Lameque..	5	49 00
100776	Patrick.	"	11	Philip Rive.	Caraquet..	4	39 00
103773	Pelican.	"	13	Wm Fruing & Co.	Shippegan.	4	41 00
103674	Petrel.	"	12	Thos. Ahier.	"	3	33 00
96740	Providence.	"	13	Prosper S. Albert.	Caraquet..	4	41 00
96732	Providence.	"	11	Wm Fruing & Co.	Shippegan.	4	39 00
72076	Providence.	"	12	Thos. Ahier.	"	4	40 00
100904	P. T. S.	"	11	J. N. LeBouthillier..	Caraquet..	4	39 00
100979	Ranger.	"	10	C. Robin, Collas & Co.	"	3	31 00
103287	Raven.	"	11	Thos. Ahier.	Shippegan.	3	32 00
100775	Red Gauntlet.	"	11	Philip Rive.	Caraquet..	4	39 00
103272	Red Weasel.	"	11	Albert E. Windsor.	Miscou Island.	3	32 00
100952	Replevin.	"	10	C. Robin, Collas & Co.	Caraquet..	3	31 00
103078	Reward.	"	13	James De Grace.	Shippegan.	3	34 00
97191	Rita.	"	12	C. Robin, Collas & Co.	Caraquet..	4	40 00
111470	River Branch.	"	11	Jeremie Paulin.	Lameque.	5	46 00
103946	Robin.	"	12	C. Robin, Collas & Co.	Caraquet..	4	40 00
103587	Romulus.	"	18	W. S. Loggie & Co.	Chatham..	4	46 00
100908	Rosalie.	"	10	Edward LeBouthillier.	Caraquet..	3	31 00
100773	Rupert.	"	12	Philip Rive.	"	4	40 00
103273	Russell.	"	10	John M. Ward.	Miscou.	4	38 00
74401	Sara.	"	11	Nazaire Noel.	Lameque..	4	39 00
100907	Sarah.	"	10	Robert Young.	Caraquet..	3	31 00
92408	Sarah A. W.	"	15	Robert J. Wilson.	Miscou Island.	3	36 00
103010	Sarah B.	"	10	Jos. N. Lanteigne.	Caraquet..	4	38 00
103584	Saxon.	"	13	Philip Rive.	"	3	34 00
100959	Sea Bird.	"	10	W. S. Loggie & Co.	Chatham..	4	38 00
100901	Sea Flower.	"	12	Robert Young.	Caraquet..	3	33 00
100914	Sea Flower.	"	11	C. Robin, Collas & Co.	"	4	39 00
96731	Sea Star.	"	13	Joseph Savoy.	Shippegan.	4	41 00
100961	Silver Moon.	"	14	W. S. Loggie & Co.	Caraquet..	5	49 00

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LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*GLOUCESTER COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name or Owner or Managing Owner.	Residence.	Number of Crew paid.	Amount of Bounty paid.
							\$ cts.
100988	Sir Charles .....	Chatham.....	11	Robert Young.....	Caraquet.....	3	32 00
100982	Snow drop.....	" .....	11	C. Robin, Collas & Co.	" .....	5	46 00
103087	Stanley .....	" .....	10	Joseph A. Baudin.....	Miscou.....	4	38 00
100963	Stanley .....	" .....	10	Philip Rive.....	Caraquet.....	4	38 00
103193	Startle.....	Halifax.....	11	Theotime Blanchard.....	" .....	4	39 00
103767	Stella Maris.....	Chatham.....	19	J. N. LeBouthillier.....	" .....	5	54 00
111845	Superior.....	" .....	14	" .....	" .....	1	21 00
103772	Surprise.....	" .....	10	Thos. Blanchard.....	Mizzonette.....	3	31 00
103006	Swallow.....	" .....	11	Thos. Ahier.....	Shippegan.....	4	39 00
103947	Swallow.....	" .....	13	C. Robin, Collas & Co.	Caraquet.....	3	34 00
103762	Swan.....	" .....	14	Thos. Ahier.....	Shippegan.....	4	42 00
100986	Swift.....	" .....	11	Augustin Lanteigne.....	Little River.....	4	39 00
103761	Swing.....	" .....	11	John A. Albert.....	Caraquet.....	3	32 00
111469	St. John.....	" .....	13	Jean A. Ache.....	Lameque.....	4	41 00
103008	St. Joseph.....	" .....	12	Adolphe Ache.....	" .....	4	40 00
107776	St. Peter.....	" .....	12	" .....	" .....	4	40 00
100777	Teutonic.....	" .....	11	C. Hubbard.....	Caraquet.....	3	32 00
96738	Three Brothers.....	" .....	12	Chas. S. Hachey.....	" .....	4	40 00
103082	Thrush.....	" .....	10	Wm. D. Mallet.....	Shippegan.....	3	31 00
100918	Tickler.....	" .....	12	C. Robin, Collas & Co.	Caraquet.....	3	33 00
103583	Two Brothers.....	" .....	11	W. S. Loggie & Co.....	Chatham.....	3	32 00
103285	Valkyrie.....	" .....	12	Philip Rive.....	Caraquet.....	4	40 00
103274	Vesuvius.....	" .....	10	Geo. D. Maillet.....	Shippegan.....	4	38 00
103775	Victoria.....	" .....	16	W. S. Loggie & Co.....	Chatham.....	4	44 00
100995	Voltaire.....	" .....	10	Philip Rive.....	Caraquet.....	3	31 00
100966	Von Moltke.....	" .....	11	Philip Rive.....	" .....	4	39 00
103588	Vulture.....	" .....	13	W. S. Loggie & Co.....	Chatham.....	4	41 00
96735	White Fish.....	" .....	12	Joseph L. Savoy.....	Lameque.....	4	40 00
100953	White Wings.....	" .....	10	Robert Young.....	Caraquet.....	4	38 00
100973	World's Fair.....	" .....	11	Robert Young.....	" .....	4	39 00
103079	Wren.....	" .....	11	Thos. Ahier.....	Shippegan.....	4	39 00
100920	Zephyr.....	" .....	12	C. Robin, Collas & Co.	Caraquet.....	3	33 00

## NORTHUMBERLAND COUNTY.

96725	Bessie T.....	Chatham.....	10	Donald Loggie.....	Church Point...	2	24 00
100969	John Bull.....	" .....	10	James Anderson.....	" .....	2	24 00
92420	Mary Louise.....	" .....	13	Donald Loggie.....	" .....	2	27 00

## ST. JOHN COUNTY.

88253	E. B. Colwell.....	St. John.....	19	Joseph S. Galbraith.....	Pisarinco.....	5	54 00
59373	E. M. Oliver.....	St. Andrews.....	14	Chas. Harkins, sr.....	Dipper Harbour.	3	35 00
100156	Hustler.....	St. John.....	44	Addison Thompson.....	Chance Harbour.	7	93 00
77783	Lost Heir.....	" .....	15	Henry Alston.....	Pisarinco.....	3	36 00

## PRINCE EDWARD ISLAND.

## KING'S COUNTY.

71310	Black Watch.....	Charlottetown..	23	John Reafuse.....	Georgetown...	4	51 00
103322	Bonnie Brier Bush.	Pt. Hawkesbury.	38	George Dunn.....	Murray Hbr. S.	8	94 00
92675	Can't Help It.....	Pictou.....	40	Freeman Reynolds.....	" .....	8	96 00
100445	Carrie O.....	Canso.....	12	Wm. Harris.....	Beach Point.....	3	33 00
83196	Ethel Blanche.....	Pictou.....	17	Wm. White.....	Murray Harb.N.	4	45 00

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List of Vessels which received Fishing Bounty, &c.—Prince Edward Island—*Con.*KING'S COUNTY—*Concluded.*

Vessel Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	Number of Crew paid.	Amount of Bounty paid.
100691	Francis E. Willard.	Pictou.....	23	Louis H. Herring.....	Murray Harb. S.	3	44 00
83318	Genesta.....	Charlottetown..	29	Henry Dicks.....	Georgetown.....	6	71 00
107759	Hustler.....	".....	13	Hugh Jackson.....	Murray Harb. S.	4	41 00
75558	Julia A.....	".....	15	Gabriel Billard.....	".....	4	43 00
94670	Katie A. Burns.....	Halifax.....	36	Joseph White.....	".....	9	99 00
100696	Marion Emerson.....	Pictou.....	30	Reuben Cahoon.....	Beach Point.....	9	93 00
64869	Sarah L. Owner.....	Halifax.....	34	Edward Delory.....	Georgetown.....	3	55 00
74160	Sea Bird.....	Charlottetown..	20	Vere White.....	Beach Point.....	6	62 00
75895	Two Brothers.....	".....	26	John Gosbee.....	Murray River.....	7	75 00
90488	Wave.....	".....	19	James Delory.....	Georgetown.....	3	40 00

## PRINCE COUNTY.

107758	Daisy.....	Charlottetown..	13	Daniel Fraser.....	Alberton.....	5	48 00
92473	Lucy Louisa.....	".....	19	James Roach.....	Malpeque.....	6	61 00
107757	Mayflower.....	".....	18	James L. Richards.....	Alberton.....	3	39 00
94992	Sarah P. Ayer.....	".....	64	John Champion.....	".....	4	92 00
96926	Sea Foam.....	".....	15	John W. Skerry.....	".....	3	36 00
107760	Western Prince.....	".....	10	Wallace Richards.....	".....	3	31 00

## QUEEN'S COUNTY.

92466	G. H. Gardiner.....	Charlottetown..	17	E. Marshall, jr.....	North Rustico..	4	45 00
88518	W. F. Elizabeth.....	Sydney.....	10	Bradford LePage.....	Rusticoville.....	6	52 00

## PROVINCE OF QUEBEC.

## BONAVENTURE COUNTY.

94969	Winnie G. S.....	Lunenburg.....	26	Daniel McGregor.....	Dalhousie.....	3	47 00
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## GASPÉ COUNTY.

71302	Alice.....	Charlottetown..	10	John Miousse.....	Pointe Basse....	2	24 00
85400	Minnie M.....	Amherst, M. I..	13	John James Bushey.....	Old Harry.....	4	41 00
85399	Minnie May.....	".....	10	Charles Cormier, et al.	Amherst, M.I..	4	38 00
103148	River Pride.....	Gaspé.....	52	Alexander and Le Mar-			
				quand.....	Point St. Peter..	9	115 00
74087	Sea Gem.....	Halifax.....	30	Arsène Arseneau.....	Pointe Basse....	4	58 00
94675	Success.....	".....	15	R. J. Leslie.....	Amherst, M.I..	4	43 00

## SAGUENAY COUNTY.

85756	Aristile.....	Quebec.....	19	Philéas Vézina.....	St. Michel.....	2	33 00
80754	Eugene.....	".....	48	André Vigneau.....	Esquimaux Pt..	4	76 00
69382	Marie du Sacré- Cœur.....	Gaspé.....	46	Alex. Turbis.....	".....	12	130 00
75445	Phoenix.....	".....	28	Napoléon Sherrer.....	".....	5	63 00
80753	Stella Maris.....	Quebec.....	51	Louis Cummings.....	".....	13	142 00
66727	Willow.....	Halifax.....	18	Auguste Boulet.....	Montmagny.....	3	39 00

## APPENDIX No. 3.

# NOVA SCOTIA.

**District No. 1.**—Comprising the four counties of the Island of Cape Breton.  
*Inspector A. C. Bertram, North Sydney, C.B.*

**District No. 2.**—Comprising the counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants.  
*Inspector Robert Hockin, Pictou.*

**District No. 3.**—Comprising the counties of King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg.  
*Inspector L. S. Ford, Milton.*

### DISTRICT No. 1.

#### ANNUAL REPORT ON THE FISHERIES OF CAPE BRETON ISLAND, 1901.

NORTH SYDNEY, January 2, 1902.

To the Dominion Commissioner of Fisheries,  
 Ottawa.

SIR,—I have the honour to submit herewith my seventeenth annual report on the fisheries for the year 1901 of District No. 1, comprising the four counties of the Island of Cape Breton, together with statistical tables showing in detail the operations of the fishery industry in the district under my supervision. This report gives the catch in each section and locality, the total value of the full catch as well as the number of people employed, value of materials, and a synopsis of the reports of the overseers.

The statistics for 1901 reveal a decrease in the total value of the catch compared with the previous year. The following table will show the increase and decrease by counties :—

County.	Value.		Increase.	Decrease.
	1900.	1901.		
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Cape Breton.....	260,105 95	220,561 05		39,544 90
Inverness .....	225,081 49	207,121 45		17,960 03
Richmond .....	456,444 20	513,584 85	57,139 85	
Victoria.....	130,455 30	124,105 08		6,350 22

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In 1899 there was an increase in the total value of the fisheries in Cape Breton amounting to \$239,191. The subsequent year (1900) gave a decrease amounting to \$228,322.71. The decrease of the year just closed as will be seen by the foregoing table is only \$6,715.30. The greatest decrease in value in any class of the product is in lobsters. But considering the mining and manufacturing developement going on in Cape Breton, causing a drain on men in some of the fishing localities, the falling off in the total value is not so marked, during the year, as I feared would be the case. Taking the whole district there is a decrease in the catch of salmon, herring, lobsters, hake, pollock, halibut and trout, and an increase in mackerel, cod, haddock, smelts and eels. By counties, that of Cape Breton, shows a decrease in salmon, herring, fresh mackerel, lobsters, pollock and halibut and increase in salt mackerel, cod, haddock, trout, smelts and eels. In 1900 25 vessels and 560 boats with 1,284 men, were engaged in the prosecution of the industry, while during 1901 23 vessels and 472 boats, with 1,032 men were engaged.

In Inverness county the decrease has occurred in salmon, pickled herring, mackerel, lobsters, cod, haddock, hake, halibut, trout, smelts and eels. There were five vessels engaged in the fisheries in this county, 101 boats and 395 men less than in the previous year.

In Richmond county a decrease has occurred in the following classes of fish :—salmon, lobsters, hake, pollock and trout. The increase is in mackerel, cod, haddock, halibut and smelts. Precisely the same number of vessels (52) were engaged as in the previous year, while there has been a falling off in the number of boats of 77 in 1900. Yet there were 119 more men employed in the fisheries of Richmond county than in 1900. This county being the only one of the four Cape Breton counties showing an increase in the total value of fish (\$57,139.85) over the previous year. Of the classes, mackerel, herring and cod contributed the most to make up the increase.

In Victoria county there was a decrease in salmon, herring, lobsters, hake, pollock, halibut and trout and an increase in mackerel, cod, haddock and smelts. While the same number of vessels (3) were engaged there were 111 more boats than were engaged the previous year.

There is a diminution in the number of men employed in the whole district during the year of 456 in 1900. The decrease in vessels is 7 and in boats 1.

As already stated the falling off of men engaged in the fisheries is owing to the developement going on in the coal mining districts of Cape Breton.

While many of our best fishermen have sought employment in the mining districts, the drain of men has been greater on the fishing districts of Newfoundland than our own. Every trip of the Newfoundland steamers to North Sydney has brought scores of Newfoundland fishermen to this port. The fact that over one hundred Newfoundlanders have lost their lives, through accidents, during the past two years at the steel works and while engaged in the coal mines, shows the large number of men from that colony employed in Cape Breton at the present time. Many of these people are settling in this district and will likely engage in fishing, as their training qualifies them better for the prosecution of the fisheries than for other avocations.

At Neill's Harbour and New Haven, Victoria county, eighty per cent of the fishermen are Newfoundlanders, who appear to be well satisfied with their present condition. The fish supply in our coastal waters keeps up, and with the excellent local market for fish, as a result of the increased population in our towns and mining districts, Cape Breton should afford now splendid opportunities for the right kind of fishermen. The deep sea fishing should be more profitable than shore fishing. On the outside banks fishing is invariably good, and if capitalists would only turn their attention to the prosecution of the industry by building and fitting out proper fishing craft, there is no doubt there would be good results from the outlay. The fish are in the sea in abundance; trained fishermen from Newfoundland, as well as our own fishing districts are available to man the craft, therefore there is no reason why there should not be good profits in the industry for those who have capital to invest.

## LOBSTERS.

There is a marked decrease in the value of the lobster product, particularly in the canned article. This decrease is to be accounted for by the fact that there were twelve canneries less in operation in this district in 1901 than in 1900. The reason of the reduction in canneries is largely owing to the fact that many of the fishermen in the lobster districts have removed to our mining centres, preferring mining to fishing. In some districts there is a growing scarcity of lobsters, with a smaller sized run; while in other districts the change from years ago is not very perceptible, but taking this class of fishing on the whole, restriction is needed if the industry is to be preserved to future generations.

The fishermen of the State of Maine years ago depleted their waters of lobsters by indiscriminate fishing. Large sums of money are being now expended to propagate the crustacea in the Maine waters. Attempts were made to import large lobsters containing spawn from our waters by the interested parties in the United States but such attempt was frustrated in this district. Agents buying live lobsters for export to the United States by steamers were instructed to procure all the lobsters they could containing spawn. The object was to liberate these female lobsters in the American waters when they arrived in that country. Whatever has taken place with regard to other districts, the shipments from Cape Breton of live lobsters were too closely watched to permit any 'spawn' lobsters being carried away.

Your department has expended, year by year, large sums of money in stocking the rivers with fry of different kinds of fish which were hatched out by artificial process. There is no doubt beneficial results have followed this system of stocking the rivers and lakes. While there is one lobster hatchery in operation in the maritime provinces considering the importance of the industry and the immense drain on the fishery year by year, as a result of canning and the exporting of live lobsters, I am of the opinion that more should be done in the way of artificial breeding, but not exactly in the way the present system is conducted. Lobsters when hatched by natural process become the prey of fish and scavengers of the sea to such an extent that but a very small percentage of the young arrive at maturity. The young lobsters placed in the sea from hatcheries become also the prey of the fish and other sea scavengers with the result that even a smaller per cent of the artificial product in a helpless state comes to maturity. If lobsters on the other hand, could be hatched by natural process or by hatcheries and kept isolated from their sea enemies until they have matured sufficiently to be able to take care of themselves, the supply would be greatly increased. In any future expenditure for the propagation of the lobster, by artificial means or otherwise, I would recommend that the 'young' be not liberated into the mouths of their enemies when unable to take care of themselves.

## OTHER FISHERIES.

In other branches of the fishing industry there is very little to be added to what has been said in this report, as well as in previous reports. The many banks surrounding this island appear to be well supplied with cod and haddock. As years pass there appears to be no perceptible falling off in the supply, particularly on the outside banks. A large class of boats, or better still, fishing vessels of a tonnage of from thirty-five to fifty-five tons, should be employed in the fishery, instead of the small boats which will not permit fishermen reaching the outside banks.

I regret to have again to mention in this report the falling off in the mid-summer herring catch. Those excellent large fat fish which formerly visited our inshore, bays and harbours in large numbers have evidently sought other haunts as did the famous Labrador herring in Newfoundland. The cause of this disappearance from our waters cannot be accounted for. The loss is severely felt by all classes, particularly our shore fishermen and farmers living on the shores, who caught in gill-nets these fat herring for their own consumption. The spring run of herring as well as the autumn run keeps up but these fish are small and poor, lacking the delicious flavour of the mid-summer herring.

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The salmon statistics show a falling off. The drain on this fishery of late years has been great, as a result of the quantities exported fresh to foreign markets, as well as the increased consumption in our provincial cities and towns. The department has under construction a modern hatchery at Margaree, Inverness county, from which the rivers can be stocked where the drain on the fishery for commercial purposes is greatest. A similar hatchery located at St. Anns, Victoria county, would keep up the supply, no matter how great the drain, and stock all the streams.

The fishery regulations were better observed in the majority of districts than in previous years.

## SYNOPSIS OF FISHERY OVERSEERS' REPORTS FOR THE ISLAND OF CAPE BRETON.

*Overseer A. R. Forbes, of North Sydney*, in his report of the season's fisheries for 1901 states that the quantity of cod taken in his district was approximately near to that taken in 1900 but a less number of men were engaged in the industry. Herring, particularly the mid-summer run, showed a decrease; also hake, pollock and halibut. Salmon is not caught to any great extent in his district. Lobsters were plentiful, but the canneries suffered owing to the fact that many of the fishermen were engaged in fishing for the exporters. Fresh lobsters were imported into his district by local dealers from sections where the season opens earlier than in Cape Breton and this caused dissatisfaction among the fishermen, who think that measures should be taken to prohibit this importation until the open season has commenced in Cape Breton. The fishermen also complain of steamers injuring the herring fishery by dumping ashes, &c., overboard and he attributes the scarcity of these fish to this cause. The close seasons were well observed; no illegal fishing having come to his notice. The whole of the season's catch was sold to Canadian purchasers excepting a very small percentage which was used for home consumption.

*Overseer Murdock McLean, of Jacksonville*, reports a decline in the fisheries of his district caused by the old fishermen giving up the business and the young men following other means of employment. A very small quantity of cod and mackerel were taken; while herring show an average catch. There are no fishways in his district and the regulations were well observed.

*Overseer Timothy Sullivan, of Little Bras d'Or* reports, an increased catch of cod. The lobster fishery was as vigorously prosecuted as in former years but owing to unfavourable weather a smaller catch was taken. Spring herring were plentiful, but the July or mid-summer run was very scarce. The amount of fish used for home consumption was about the same as in previous years.

*Overseer M. A. McInnis, of Amaguades Pond*, reports a decrease in cod and an increase in herring. The decrease in cod he attributes to a less vigorous prosecution of the industry than in previous years. Nearly the whole amount of fish taken in his district was used for home consumption. No abuses exist and the regulations were well observed.

*Overseer John McLean, of Gabarus Lake*, reports a decrease in lobsters (both live and canned) and herring. Lobsters were plentiful in the spring but owing to unfavourable weather many of the fishermen discontinued fishing before the close of the season. He attributes the herring decrease to a heavy storm which occurred shortly after these fish struck into the bay. Cod show an increase, owing to a more vigorous prosecution of the industry. Only a small percentage of the total catch was exported, the most of it being used for home consumption. The fishways in his district are in good repair. The regulations have been well observed.

*Overseer C. E. Rees, of Port Morien*, reports a material increase in the catch of all kinds of fish in his district, although the industry was prosecuted less vigorously than



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in previous years ; many of the men who formerly engaged in fishing having within the past season turned their attention to other and more remunerative means of employment. The increased catch he attributes to the fact that fish were unusually plentiful. The close seasons were well observed. The fish taken in his district was all sold in Nova Scotia, the bulk of it in the mining towns of Cape Breton.

*Overseer John McCuish, of Bateson*, reports a decrease in lobsters, cod, mackerel and herring ; while the catch of halibut was about the same as last season. The decrease in lobsters he attributes more to scarcity of these fish than to any other cause, as this branch of the industry was prosecuted with more vigour this season than the previous one. Dogfish interfered with the cod industry as well as with the herring and mackerel fishery. The whole catch (with the exception of about ten per cent which was used for home consumption) was sold in the Nova Scotia markets. No violations of the regulations occurred.

#### INVERNESS COUNTY.

*Overseer D. F. McLean, of Port Hood*, reports a decrease in every branch of the fisheries in his district with the exception of salted mackerel, dried haddock and pollock which show a slight increase. The only cause in his opinion which led to the decrease was a less vigorous prosecution of the industry. Fewer men were engaged in it, fishermen of former years devoting their time and attention to more remunerative avocations. About two-thirds of the total catch was sent to Halifax and from thence exported to the West Indies and United States. About ten per cent of the remainder was exported direct to the United States and the balance used for home consumption. The fishery regulations were well observed and the special guardians used every possible vigilance in carrying out these regulations.

*Overseer Peter Gillies, of Port Hood, S. W.*, being a new officer is not in a position to give as detailed a report of the condition of the fisheries in his district as the other overseers but from information gained in his travels through the district assigned him he thinks there has been an increase in almost every branch of the industry. The regulations were well observed.

*Overseer Albert Ingraham, of North East Margaree*, reports a scarcity of salmon and trout, which are the only fish of value ascending the Margaree river. This scarcity he attributes to low water ; there being no heavy spring freshets to clean the river bed of slime and other materials left there by the slow melting of the snow in the spring. From August 1, until late in the fall, however, quite a number of salmon ascended the river. He also reports that several streams which had long been depleted are again being inhabited by salmon, especially the brook formerly called the Ingraham brook, but now known as the Margaree Hatchery Brook. Several large salmon and trout were seen in this brook during the past season, and he recommends that some protection be afforded this stream, especially from July 1, until the end of October in each year.

*Overseer Wm. Aucoin, of Eastern Harbour*, reports a total failure in the mackerel catch in his district attributable, in his opinion, to the use of the American seine, which frightens these fish from the shores. The lobster and salmon fishery has been fair. Windy and boisterous weather during the fishing season retarded to a considerable extent the progress of those engaged in the industry. He complains that quite a number of fishermen have been deprived of their privileges through the sale of Cheticamp Island. The fishing grounds of this station are the best in Inverness county, and he suggests that stringent measures be taken to ensure to the fishermen their lost rights. The regulations in his district have been well observed.

*Overseer John B. McLellan, of Kingsville*, reports an increase in spring herring and oysters in his district. All the fish taken was used for home consumption, with the

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exception of a portion of the herring which was sold to fishing vessels for bait. The close seasons were well observed, the special guardians using all possible vigilance in protecting the fisheries.

## RICHMOND COUNTY.

*Overseer D. R. Boyle, of West Arichat*, reports an increase in fresh salmon, cod, halibut, smelts, alewives and eels, and a decrease in herring, mackerel and canned lobsters. The increase in cod he attributes to the successful fares of the Descousse vessels fishing in the North bay; while the decrease in the catch of most of the other fisheries he assigns to the scarcity of fish along the coast. The several close seasons were well observed. He regrets that there are no fishways in his district, as the brook at Rocky bay flowing from Shaw's lake was, he is informed, prior to the erection of a carding mill thereon, the resort of large quantities of eels, smelts and gaspereaux; whereas it is seldom that any of these fish are now seen in said stream. The Island of Isle Madame contains many large and small lakes which might be successfully used, he thinks, for fish breeding purposes. The great bulk of the fish caught in his district (with the exception of about 10 per cent, which was used for home consumption) was exported to Halifax, P. E. Island and Great Britain.

*Overseer Arthur Brymer, of Lower L'Ardoise*, reports that the fisheries in his district for the past season have been fairly prosperous. There has been an increase in salmon, herring, fresh mackerel, cod and halibut, and a decrease in canned lobsters, pickled mackerel, hake, trout, smelts and alewives. More men were employed in the prosecution of the industry than in the previous year. A large portion of the catch in the different branches was shipped to Boston and Halifax, and the remainder used for home consumption. There are three fish-ways in his district; all in good repair. The regulations were well observed.

*Overseer Arch. Morrison, of Cannes*, reports a gratifying increase in the total value of all fish caught in his district over the year 1900. This increase was due wholly to the large catches taken, especially of mackerel, herring and cod, as the prices of almost all kinds of fish ranged higher in 1900 than in the past season. There was also an increase in the value of fishing gear, owing to the fact that more expensive and better appliances were used in the industry than formerly. A great quantity of the fish taken was exported to different parts of Canada; the larger portion being sold in Halifax. The quantity used for home consumption was the same as in previous years, viz.: 5 per cent. The close seasons were well observed. There are no fish-ways in his district and none required.

## VICTORIA COUNTY.

*Overseer Alex. Morrison, of Wreck Cove*, reports a decrease in lobsters, owing to scarcity of lobster bait in the early part of the season, and to unfavourable weather. There was also a decrease in herring. He reports an increase in mackerel and haddock. Nearly all the fish taken in his district was exported with the exception of herring, which is largely used for home consumption. The pickled fish in almost all branches is sold in Halifax, while the fresh article finds ready sale in the Sydney markets. The fishery regulations have been well observed and all fish-ways in his district are in good order.

*Overseer D. P. Montgomery, of Neil's Harbour*, reports an increase in mackerel and a decrease in cod. He attributes the decrease in cod to scarcity of bait. About the same number of fishermen engaged in the industry this season as last. A large quantity of the total catch was shipped to Sydney, Halifax and Newfoundland; about three per cent being used for home consumption.

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*Overseer Angus McLean, of Ingonish,* reports very little difference in the catch of 1901 as compared with that of 1900. A few more men engaged in the industry. The catch of cod was exported to Montreal and Boston. That of all other branches of the industry, with the exception of a small percentage used for home consumption, was shipped to Halifax and Sydney. The regulations have been well observed. On the whole it has been a fairly prosperous season.

*Overseer W. R. Moffatt, of Cape North,* reports that while there has been a smaller number of men engaged in the industry than last season, yet the total catch shows an increase. The branches which go to make up this increase are salmon, mackerel and cod. Herring was a failure. There was also a decrease in halibut and pollock. All the mackerel taken in his district are exported to the United States. The salmon catch was shipped to Halifax and North Sydney. About eighty per cent of all other fish taken was shipped to Halifax and the remainder used for home consumption. No violations of the fishery laws came to his knowledge

*Overseer Duncan Gillis, of Baddeck,* reports an increase in all branches of the industry in his district with the exception of salmon which shows a decrease, owing to the scarcity of these fish in St. Patrick's channel. The most notable increases are in spring herring and cod. A larger number of men and boats engaged in the industry than in the past season. About sixty per cent of the total catch of salmon is sold in the home markets, the balance being shipped fresh. Of the other branches, the total catch is sold in the local markets and used for home consumption. The regulations were well observed. Several of the fishermen in his district complain of scarcity of bait at certain seasons of the year, and are desirous of having a small cold storage station erected, which, they claim, would be of great benefit to the fisheries. This overseer strongly recommends this.

*Overseer Chas. McRae, of Middle River West,* reports a reduction in the total quantity of fish taken at North Side Little Narrows. The cause of the general decrease he attributes to a less vigorous prosecution of the industry than formerly, the fishermen devoting their time and attention to other occupations. With regard to South Side Little Narrows, Overseer McRae is unable to ascertain the condition of the fisheries there as compared with the year 1900, as Overseer Gillis took up statistics at this place last year. However, he is of the opinion that the fishermen there do not very vigorously prosecute the industry, only endeavouring to catch a quantity sufficient for home consumption. About seventy-five per cent of the total catch was used for home consumption, the remainder being shipped to Halifax and other parts of the province. The regulations were strictly observed.

I have the honour to be, sir,  
Your obedient servant,

A. C. BERTRAM,  
*Inspector of Fisheries.*

## SESSIONAL PAPER No. 22

## DISTRICT No. 2.

## ANNUAL REPORT ON THE FISHERIES OF DISTRICT NO. 2, NOVA SCOTIA, COMPRISING THE COUNTIES OF ANTIGONISH, COLCHESTER, CUMBERLAND, GUYSBOROUGH, HALIFAX, HANTS AND PICTOU.

PICTOU, N.S., January 2, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to submit my annual report of the fisheries of district No. 2, Nova Scotia, together with tabulated returns showing the increase or decrease of each kind of fish.

The estimated value of the total catch for the past season is \$1,969,241, as compared with the value of the catch for the season of 1900 \$2,112,022, showing a decrease of about seven per cent. When we remember that the catch of 1900 was thirty-four per cent above that of any of the previous eleven years, and compare the value of the fish taken this year with that of the previous twelve years, it will be found to be about twenty per cent over the average catch.

The following table shows the aggregate value of the catch for the several years since this district was established :

1890.....	\$1,453,015
1891.....	1,640,912
1892.....	1,357,208
1893.....	1,427,605
1894.....	1,510,900
1895.....	1,429,789
1896.....	1,245,460
1897.....	1,461,327
1898.....	1,456,271
1899.....	1,721,735
1900.....	2,112,022
1901.....	1,969,241

Of the anadromous fishes the reports show :

An increase in the catch of salmon of.....	24 per cent.
“ “ smelts of.....	23 “
A decrease “ gaspereau.....	14 “
“ “ shad.....	45 “

Of the deep sea fishes :

Halibut shows a decrease of about.....	50 “
Hake “ “ “.....	25 “
Cod “ an increase “.....	11 “
Haddock “ “ “.....	75 “
Pollock “ “ “.....	42 “

or, if the catch of the whole cod family be included and compared with last season, it will be found that there is an increase of about 42 per cent.

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## SALMON.

I find the quantity reported caught, was the largest taken in the district for twelve years and an increase of 22 per cent over that of last year. This increase has been upon the Atlantic coast and Strait of Northumberland; upon that part of the district washed by the Bay of Fundy the catch was less than last year, a decrease of 22 per cent. This is attributed to the failure of the shad fishery. Most of the salmon taken in the bay are caught in nets fished for shad, and if there are no shad, the salmon fishery alone will not pay for the requisite time and outlay.

The autumn months of the year have been very unfavourable for the salmon fishery; the rainfall was small, consequently the rivers low, and in many of the streams flowing into the Straits of Northumberland the fish could not ascend, and in others they were more liable to destruction by poachers.

## SHAD.

The returns show a great falling off in the catch of this fish, particularly in Colchester county, where the average catch has been about 900 barrels, and this season only 253 barrels are reported.

The following table shows the reported catch for each year since this district was established :—

	Barrels.		Barrels.
1889.....	535	1896.....	1,079
1890.....	750	1897.....	1,352
1891.....	1,178	1898.....	2,777
1892.....	1,811	1899.....	3,208
1893.....	1,346	1900.....	1,375
1894.....	951	1901.....	749
1895.....	1,185		

The fishermen who are interested in the shad fishery complain that the present close season for shad from Friday night to Monday morning is no protection; that, instead of this, there should be a close season when the fish are in the rivers to spawn, that is, in the months of May and June.

## ALEWIVES.

The returns show a small catch of these fish. The catch for 1897 was 2,795 barrels, and for 1899, 2,682 barrels; that for the present year, 2,840 barrels. These are the three years having the smallest catch reported. The average catch since 1896 has been 3,200 barrels, and the average for six years prior to 1896 was 4,500 barrels.

## SMELTS.

There were more smelts caught during the past year than there has been for any year but one since 1889, and an increase of nearly 20 per cent over last year. This increase was chiefly in Cumberland and Guysboro' counties.

## HERRING.

Compared with last year's catch, there is a decline of about 9 per cent.

## MACKEREL.

Last year the catch of these fish was the largest during the past twenty years; since 1889 it has fluctuated from 9,000 barrels in 1895 to 44,000 in 1900, the average catch being about 20,000 barrels.

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This season the catch is 33,000 barrels, and two-thirds of what were taken in the district were caught in Halifax county.

## LOBSTERS.

The returns of this fishery show a decrease of about 9 per cent in the quantity canned, but an increase in the quantity exported in the shell. If this increase had been canned, the product of the fishery would have been  $6\frac{1}{2}$  per cent less than last year. This decrease was chiefly the Atlantic coast, for the returns from canneries on the Strait of Northumberland show an increase of 4 per cent over that of last year.

The returns from Guysboro' County show a decrease of 33 per cent from last year.

Those from Halifax County, indicate that, on that part of the district the catch was about the same as the previous year.

Excepting on that part of this district bordering on New Brunswick the close season for lobsters has been better observed this season than it has ever been.

The Patrol Boat *Florence C.* on the Atlantic coast has suppressed the illegal fishing which prevailed there, and the fishermen generally assist the officers by giving information of any gear illegally set.

Overseer Campbell of Cumberland County, succeeded in locating a number of trawls with probably 600 traps attached and with the aid of the launch *Davis* confiscated them and it is hoped that in that part of the district the illegal fishing has also been suppressed.

Fifteen cases were tried before the Inspector for violation of the Fisheries Act, and in eleven the parties were convicted, in four others the evidence did not warrant conviction.

Twelve nets were seized and confiscated for violation of the Fisheries Act.

## SYNOPSIS OF OVERSEERS' REPORTS.

*Overseer A. R. McAdam, of Antigonish County*, remarks that the salmon fishery shows an increase of 14 per cent over that of 1900. The catch of spring herring was good, but the mid summer run was a failure. There was a decrease in the cod, haddock and hake fisheries attributable to the scarcity of bait and to the appearance of dog fish in the fall, which greatly retarded deep sea fishing. The close seasons were well observed. One net was confiscated, having been seized by Guardian Delerey.

*Overseer Davison, of Colchester*, says regarding the fisheries of that part of Colchester County, on the Bay of Fundy, that is not very encouraging. The shad fishery, which is the principal fishery, has declined in an alarming degree. The catch in 1899 was 1,403 barrels, in 1901 it was 77, which is the smallest catch that he has known. This decline was not owing to weather for the season was exceptionally fine. In former years it was no uncommon occurrence to catch 4,000 to 5,000 barrels in one season. The chief reason is the destruction of the fish when in the rivers to spawn; and the rivers particularly mentioned are the Shubenacadie and Stewiacke in which nets are set during spawning season, so closely to each other that it is nearly impossible for shad to pass them. These nets are set  $\frac{2}{3}$  across on one side, but another will be set on the opposite side a few rods further up the river and will extend the same distance across so that practically the whole river is occupied with nets. The only close season being from Friday night until Monday morning. The falling off in the catch of salmon is largely due to the shad fishery failure for it does not pay to prosecute the salmon fishery only. The other fisheries were about an average. There was no illegal fishing, so far as he is aware and no fines have been collected.

*Overseer James R. Mosher, of Hants County*, says the failure in the shad fishery was felt very much, for it was almost a complete failure. After 20 years' observations his opinion is that shad will require more protection when in the rivers or they will not

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increase. There should be no fishing for shad until June 15. Seine fishing for shad should be prohibited and net fishing very much restricted. Sawdust in the rivers is injuring this fishery. The close seasons, for fish were generally well observed.

*Overseer Angevine, of Cumberland County*, says the two fishways in his division are considered in fairly good condition. Fish were not so plentiful as last year.

*Overseer Campbell, Cumberland County*, says generally speaking the lobster fishery starts well and the catch is good, but this season it fell off at the close and altogether was not as good as in former years. He has spent considerable time and has made some progress in having the close season enforced regarding lobsters and with the aid of the launch *Davis* destroyed 16 gears and confiscated one boat, and is in hopes that this will prevent further illegal fishing. The herring fishery was not up to the average, which was perhaps owing to the heavy ice returning and preventing nets being set for the first school. The gaspereau fishery was better than in 1900.

There is a disposition to violate the law with regard to smelt by setting bag nets at night, and there is considerable difficulty in enforcing the law. While the Intercolonial Railway authorities will not carry smelts taken out of season, he says the Express Company will. He finds that the owners of dams do not maintain fishways in efficient condition, but the latter are frequently found filled with rubbish, and he proposes to deal stringently with such cases.

*Overseer David Reid, of Guysboro County*, says that the decline in the lobster fishery was owing largely to very rough weather in April and May, but there was also a noticeable scarcity of fish. In all of his division of Guysboro county the salmon were more plentiful and the catch was about 25 per cent over last year. The herring fishery was a failure, most of the fishermen believe that in their course along the coast southward that the fish kept outside of the usual fishing grounds. An increase in the halibut and cod fisheries is noted. The weather was fine in the fall months and there was an abundance of squid for bait. The different close seasons were well observed. The patrol boat *Florence C.* has checked illegal fishing for lobsters so that now there is no evidence of illegal fishing.

*Overseer Robt. Gaston* notes an increase in the cod, haddock and halibut fisheries but a decrease in the catch of herring and mackerel. This latter was owing to the abundance of squid which destroyed the fish caught in nets. The decrease in the lobster fishery was owing to the boisterous weather, particularly in April. Many of the fishermen ceased to fish for lobsters and fished for cod. The close seasons were well observed, there was no illegal fishing for lobsters. A new fishway was built in the dam on Tangier river and the one on Moser river was repaired.

*Overseer Rawlings* says that the patrol boat *Florence C.* has done excellent work in suppressing the packing of lobsters in close season. There were no lobsters illegally packed in his division last season, but he greatly fears that if the patrol boat were not on the coast that there would be illegal fishing again. There will be more work required on the Porter's lake outlet before it will be of value to the fisheries.

*Overseer Kennedy* notes the construction of a large dam on Ingram river which, however, has been provided with a fishway. The mackerel were not in such abundance as last year but a good catch was made. There was some illegal fishing for lobsters but in a small way. He secured the assistance of some fishermen and destroyed such traps as were illegally set.

*Overseer James Kitchen, of Pictou County*, says the catch of herring and salmon was somewhat larger than that of the previous year, other fisheries were about the same. One exception, however, is noted, viz., the squid, which rarely are found in that part of the straits, but this season during November, there were large quantities in River John harbour, and were thrown up by the waves on the beach. There were seven boats and

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eleven more men fishing for lobsters than last season, but a smaller quantity was taken than in 1900. The fish were not so plentiful, the average size was large, and there was a scarcity of bait at the opening of the season. He strongly urges construction of fish-ways so that salmon can visit the head waters of the River John. There are two dams on this river which obstruct the passage of the fish. There are some still in the river and with anything like fair-play they would greatly increase.

*Overseer Pritchard, of Pictou*, remarks regarding the lobster fisheries of Pictou Island, that the size of the fish taken would compare favourably with that of any season during the past decade. The quantity taken was not so large as last season. Storms which prevailed during the early part of the season did great damage to the gear. He found the law well observed, both in relation to the size limit and berried lobsters. No extensive fishing of cod, &c., prevails, those caught being chiefly for home consumption. The run of salmon in the rivers of Pictou county in his division was below the average. The increased population owing to the development of the coal and iron industries, leads to more violations of the law regarding the close season for salmon. Some of the miners as well as residents along the rivers were busy with torch and spear and nets. This fishing is almost invariably done at night under cover of darkness and they have a watch kept, and as soon as the officers are seen the alarm is given and the poachers escape to the woods. However, seven nets and a boat with spears were captured and confiscated. Most of this illegal fishing was on the Middle river. The East river for 15 miles from the harbour was free from fishing, and for the next twelve miles the law was fairly well observed. Sea trout were not numerous, they appear to be leaving the rivers. Some of the lakes which were excellent fishing places for trout are not at all equal to their former productiveness, chiefly owing to dams, the fish get down stream to spawn and cannot return.

*Overseer A. McDonald, of Pictou County*, says, regarding the salmon fishery of the Strait of Northumberland, that there was an increase over the catch of last year. The catch of spring herring was not as large. That of lobsters about the same as last year, while cod, mackerel and hake were scarce. The guardians worked faithfully to protect the rivers. There was some poaching carried on by persons in disguise at night, but the parties escaped arrest and identification. Salmon ascended the rivers earlier than usual and in large numbers.

*Overseer George H. Henderson, of Colchester*, has confiscated several nets set for salmon. The taking of one of these nets involved serious consequences to the guardian, Alexander Hayman, for, some unseen persons from the bank of the river threw stones at the officers, one of which struck him on the leg, and so injured the bone that he was for eleven weeks unable to work.

I have the honour to be, sir, your obedient servant,

ROBERT HOCKIN,  
*Inspector of Fisheries.*





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## LOBSTERS.

This important industry deserves more than a passing observation. The United States market for live lobsters being within a few hours reach of some of our counties, notably, Digby, Yarmouth and Shelburne, a large and growing trade has sprung up between us, a trade that will be extended to Queens and Lunenburg as well, when the contemplated railroad from Halifax to Yarmouth is completed. This industry despite the opinion of pessimists does not show any falling off neither in catch nor in price, but runs over the million dollars in District No. 3 alone. The comparative statement is :—

1901.....	\$1,341,897 00
1900.....	1,027,875 60

An increase of over ..... \$300,000 00

The regulations are fairly well observed, but the temptation to use illegal fish seems a difficult matter for some packers to get over. We are pleased to note that lobster hatcheries are being placed in the maritime provinces, and hope in the near future to see one or two somewhere in our district, one in St. Mary's bay and another somewhere in Shelburne or Queen's, on the Atlantic coast.

## COD.

The increase in the total value of the catch of cod this year amounts to over \$300,000.

In 1901 .....	\$2,118,064
In 1900.....	1,807,570

Lunenburg, with her magnificent fleet of fishermen, leads, as usual, with Digby a close second.

## HADDOCK

Show an increased value of \$82,576 ; pollock a decrease, and hake a large falling off.

## HALIBUT,

For some unexplained reason, show a decreased catch of over \$50,000. Shad and trout show a small decrease, but alewives an increase of over \$7,000.

Thus, it will be seen, the increase stated is made up from the more important branches of the fishing industry and makes a very satisfactory showing.

I would again call the attention of your department, now that the bait cold storage question is settled and lobster hatcheries in progress, to the so-called dog-fish nuisance. These fish are rich in phosphates, and a small bounty paid to parties who would manufacture them into manure would serve a twofold purpose, make the fish of value for catching and enrich the farms with cheap fertilizers. They are an intolerable nuisance to the fishermen, destroying their gear and, under existing circumstances, are increasing rapidly.

I inclose extracts from several of the fishery overseers, to which I would respectfully call your attention.

*Overseer Hatfield, of Yarmouth, states that twenty per cent more lobsters were canned than in 1900. Live lobsters shipped, about the same. Cod, much larger catch and prices higher. Mackerel, seventy-five per cent less, with prices low. Herring, increased catch ; prices higher. Alewives, increase in catch and price, and all other fish a fair average.*

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*Overseer Goudey, of Barrington*, reports that the lobster fishermen have done well. Not as many large ones as last year, but the prices ran high and satisfactory. Cod, above the average. Herring, about 4,000 more barrels than last year. All other fish gave average catch.

*Overseer G. K. Hines, of Shelburne*, says all kinds of fishing are ahead of last year. Herring, nearly double. Lobsters, an increased catch and price. Shore fishing better all round.

*Overseer J. L. Bain, of Queen's*, states that all kinds of fisheries are better than last year. Cod, exceedingly good all along the coast. Boisterous weather shortened the lobster season, yet the catch fell but little short. Herring, in particular, were much more abundant.

*Overseer J. B. Morris, of Bridgewater, Lunenburg West*, states that the catches of fish differ very slightly from last year. A small increase in salmon. Herring about the same. A slight increase in mackerel. Lobster fishing as good as last year. Cod, a small increase. Other fish an average catch. I consider the year's fishing has been successful.

*Overseer Jno. A. Webber, of Chester, Lunenburg East*, says that the year 1901 can be noted as a good average for fish in his district. The lobster catch, an increase. Mackerel, a fall off. Codfish excellent all along the line. Other just a fair average. Dog-fish very numerous and destructive to the nets. Bankers, as a rule, did well.

*Overseer H. Parks, of Annapolis*, says that there has been an average catch of all kinds of fish except herring, which were very scarce.

*Overseer G. B. Bishop, of Digby*, says that our fishermen in every branch of the service have had a prosperous year. The catch of all kinds has been above the average.

All of which is respectfully submitted.

Your obedient servant,

L. S. FORD,  
*Inspector, District No. 3.*

APPENDIX No. 3—*Con.*

FISHERY STATISTICS

FOR THE YEAR 1901

NOVA SCOTIA

DISTRICT No. 1 -Cape Breton Island

“ No. 2—Seven Eastern Counties

“ No. 3—Seven Western Counties.

## DISTRICT No. 1.

## ISLAND OF CAPE BRETON, COUNTIES OF RICHMOND, CAPE BRETON, VICTORIA AND INVERNESS.

RETURN Showing the Number, Tonnage and Value of Vessels, Boats, Nets and the quantity and value of Fish in the County of Richmond, Province of Nova Scotia, for the Year 1901.

FISHING DISTRICT.	FISHING VESSELS AND BOATS.				FISHING GEAR AND MATERIALS.				KINDS OF FISH.																		
	Vessels.		Boats.		Gill Nets.		Trawls.		Salmon, fresh, lbs.	Salmon, preserved in cans, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.	Number.										
	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.										Value.	Number.	Value.							
<i>Richmond.</i>																											
1 Gut of Canso to Port Malcolm.	6	211	3100	42	74	740	86	860	17200	4300	..	..	..	..	..	..	..	1									
2 River Inhabitants to St. Louis.	3	87	1750	14	172	1720	181	1680	33600	8680	25	125	..	..	..	..	..	2									
3 River Bourgeois.	14	364	4385	95	41	400	45	376	7520	2236	15	75	..	..	..	..	..	3									
4 Janvin Island.	1	22	300	5	43	590	62	316	7320	2528	51	250	..	..	..	..	..	4									
5 Arichat to Cape August.	6	138	2250	25	157	1470	202	1672	39520	10963	294	1485	150	150	270	28320	278	5									
6 Petit de Grat.	5	109	1750	28	101	1500	133	1416	27200	9912	279	1395	9900	9020	398	45264	165	6									
7 Rocky Bay and vicinity.	7	314	4290	150	27	240	142	692	13720	5200	102	510	1102	7500	1200	398	45264	7									
8 Decousse to Martinique.	4	801	1560	17	10	100	34	409	8170	3400	174	940	950	2400	1290	283	9836	8									
9 St. Peter's.	4	801	1560	17	10	100	14	60	1200	360	14	70	382	1500	360	125	..	9									
10 Grande Greve and vicinity.	2	30	500	12	52	900	75	120	2400	1080	4	40	175	24000	40000	75	24912	10									
11 Rockdale.	4	67	2300	28	243	8400	506	3200	36400	900	29	320	600	15000	35000	400	88100	11									
12 L'Ardoise, lower and west.	4	67	2300	28	243	8400	506	3200	36400	3575	75	790	300	98000	55000	4275	..	12									
13 Pt. Michaud to Grand River.	4	67	2300	28	243	8400	506	3200	36400	3575	75	790	300	98000	55000	4275	..	13									
14 L'Archeveque.	4	67	2300	28	243	8400	506	3200	36400	3575	75	790	300	98000	55000	4275	..	14									
15 St. Esprit to Fourchu.	4	67	2300	28	243	8400	506	3200	36400	3575	75	790	300	98000	55000	4275	..	15									
16 Irish Cove to Indian Reserve, including Linchy's river.	4	67	2300	28	243	8400	506	3200	36400	3575	75	790	300	98000	55000	4275	..	16									
17 Morrison Harbour to Black River.	4	67	2300	28	243	8400	506	3200	36400	3575	75	790	300	98000	55000	4275	..	17									
Totals.	52	2146	22695	416	1282	22891	2104	12222	230070	60974	1197	6806	9950	540	12	10067	168450	143250	8261	324284	904						
Values.																						64857	4510				

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RETURN showing Quantity and Value of Fish, &amp;c.—Nova Scotia—Continued.

Fishing District.	KINDS OF FISH.																	FISH PRODUCTS.		TOTAL VALUE OF ALL FISH.	Number.
	Cod, dried, cwt.	Cod, tongues and sounds, bbls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Alwives or Capereau, bbls.	Wels, bbls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Squid, bbls.	Coarse and mixed fish, bbls.	Fish oil, galls.	Fish as bait, bbls.		
<i>Richmond.</i>																					
1 Gut of Canoe to Port Malcolm	640			230				90				350			31000		8		400		1
2 River Inhabitants to St. Louis	376			190				71				150			38000			233	168	255	2
3 River Bourgeois	4475			270				131				70			12 37000			228	1800	100	3
4 Jeanvin Island	231		1200	122				18	1925		2000	97			332900		80	240	175	254	4
5 Arichat to Cape August	2155	8	6500	916				84	12 309	7275	17000	6000			24 197000		141	940	1450	971	5
6 Petit de Grat	1250	4	125000	1316	91400			30	340	3100	2000	5			24 197000		210	480	1300	624	6
7 Rocky and vicinity	404		2000	149				103	1050		2000	81			18 103000		75	623	900	642	7
8 Descouise to Martinique	4804	20	600	194				43		54	21500	44			470 65600		83	251	2442	662	8
9 St. Peter's	724			79				105							15000			80	240	90	9
10 Grande Greve and vicinity	150	4	22000	80				28	21 160	700 800		58			26 32000		40	104	72	75	10
11 Rockdale	500	4	17000	500				15	30 460	10000 200		100			4 45000		200	200	120		11
12 L'Ardoise, lower and west	5700	23	20000	2000				40	45 1350	90000 377		580			17 17000		190	670	1900	290	12
13 St. Michael to Grand River	580	6	7000	100				30	9 150	2700 400		68			14 4000		45	460	590	47	13
14 L'Archequeque	300	3	5000	40				20	6 70	6000 250		23			11 4000		20	200	280	16	14
15 St. Esprit to Fourchu	1900	15	4400	750				120	102 370	12300 1130		95			70 15000		218	269	1939	495	15
16 Irish Cove to Indian Reserve, including Liney's River	1098			60				40	17 200	5000 1000	2000	33			50 5000		50	30	120	15	16
17 Morrison Harbour to Black River	286																				17
Totals	25583	87	210700	7896	91400		573	252	3981	139450	4157	61600	1707	852	993800	48900	1200	5008	13776	4656	
Values	\$102332	870	6321	23688	5484	1289	126	7962	13945	415	3080	6828	8520	10016	49680	2445	4800	10016	4133	6984	05

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., and the quantity and value of Fish in the County of  
**Cape Breton—Nova Scotia—Con.**

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIAL.				KINDS OF FISH.									
		Vessels.			Boats.			Gill Nets.		Trawls.		Salmon, fresh, lbs.	Salmon, salted, brls.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.		
		Number.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.	Value.										
<i>Cape Breton.</i>																					
1	Gabarus Bay and Lake.	20	800	6	44	2500	112	296	5870	2910	•	2000	2	450	1800	11500	260	94806	900	1	
2	Louisburg to Lorraine.	40	800	9	58	1450	121	360	9000	2600	•	3800	6	205	2050	11500	460	76296	2	2	
3	Little Lorraine to Mira Bay.	62	1250	18	66	1000	153	413	12142	3264	37	246	4	711	1150	870	408	46110	3	4	
4	Scatarie Island.				19	950	47	40	600	400	•			24	400	2000	30			4	
5	Port Morien and vicinity.	36	1026	6	49	532	53	201	5005	1631	101	256		823	400	2000	97	92016	5	5	
6	Schooner Pond and Glace Bay.	88	1800	22	34	1000	75	500	10000	3000	80	800		250	240	500	37	9600	31	6	
7	Lingan and Low Point.	42	1000	12	23	550	65	450	9500	2500	75	750		240	500	800	45	33216	8	7	
8	South Bar and Sydney.				8	175	24	100	1000	600	25	250		50	2000	1500	12			8	
9	Little and Big Ponds.				20	220	25	55	1375	240	1	8		20	2000	1500				9	
10	Little Bras d'Or.	74	1600	26	48	900	96	170	4250	600	70	500		76	3000	600	45	78376	10	10	
11	North Sydney to Boisdale.	60	380	5	32	407	54	75	1500	355	12	104		1164	2000		210			11	
12	Shunacadie to Christmas Island.				11	120	14	12	268	68	6	18		63	60					12	
13	Grand Narrows.				8	135	16	14	300	78	9	27		70	70					13	
14	Piper's Cove to Eskasonie.				26	347	39	48	974	269	22	66		315						14	
15	East Bay.				9	100	11	11	220	66	6	15		56						15	
16	Middle Cape to Irish Cove.				17	228	23	21	424	136	12	32		70						16	
23	Totals.	421	8655	104	472	10614	928	2766	62428	18707	456	3072	12	4086	24550	19270	1394	430720	959		
	Values.												42389	180	16344	245	2312	20910	86144	4796	

## SESSIONAL PAPER No. 22

Return showing the Number, Tonnage and Value of Vessels and Boats, and the Quantity of Fish, &amp;c.—Nova Scotia.—Con.

Number.	Districts.	KINDS OF FISH.														Fish Pro- DUCTS.		Total Value of All Fish.	Number			
		Cod, dried, cwt.	Cod, tongues and souls, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, brls.	Smelt, lbs.	Alewives or gas- pereau, brls.	Eels, brls.	Oysters, brls.	Flounders, lbs.	Squid, brls.	Coarse and mixed fish, brls.			Fish oil, galls.	Fish as bait, brs.	
1	Gabarus Bay and Lake	2925			67	34	28	800	2000	10	8800	130	35			206	28	1520	36	44,722	70	1
2	Lonsburg to Lorraine	1250			400		150											1250	170	32,519	20	2
3	Little Lorraine to Mira Bay	2900			517		74	1480		4		43						1340	14	34,173	90	3
4	Seatarie Island	800			140		50	5000								20		700	40	5,116	00	4
5	Port Morion and vicinity	2046	3	550	9			4500				4	10			23			433	31,149	20	5
6	Schooner Pond to Glace Bay	1250	6	1900	45	15	13	7007								95		650	86	10,565	75	6
7	Lingan to Low Point	1950	8	1100	290		17	2600			2500	14				30	15	1450	125	18,588	70	7
8	South Bar and Sydney	275	1		20		6	600										10	20	1,751	00	8
9	Little and Big Ponds	26						300					10						100	1,304	00	9
10	Little Bras d'Or	250	15	1000	90	14	37	7000			9000		13		2400	50	55	300	2000	24,247	70	10
11	North Sydney to Boisdale	1060							100		1300	12	11					14	15	9,228	00	11
12	Shunacadie to Christmas Island	122						122			700							10	15	850	50	13
13	Grand Narrows	120						120			1600	22	62					34	36	3,545	00	14
14	Piper's Cove to Eskasonie	316						200			400		11					6	5	599	30	15
15	East Bay	55						6			900	18	12		8			28	22	1,140	40	16
16	Middle Cape to Irish Cove	130						300														
	Totals	15754	33	4550	1578	63	375	29280	3300	14	25200	243	169	8	2400	424	98	7312	3117			
	Value	63016	330	136	4734	141	750	2928	330	140	1260	972	1690	32	120	1696	196	2194	4676		220,561	05



RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., and the quantity and value of fish in the County of Victoria, Province of Nova Scotia.—*Con.*

DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.								
	Vessels.			Boats.			Gill Nets.			Trawls.			Salmon, fresh, lbs.	Salmon, preserved in cans, lbs.	Salmon, salted, brls.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Number.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.									
Victoria County.																					
1 Big Bras d'Or.....					24	38	26	36	60	15	15	900				182	1100			109	1
2 Little Narrows.....					51	497	65	120	2685	586	23	60	960				70	14550	100		2
3 Baddeck Bay and vicinity.....					31	557	31	72	1910	561	8	43	3080				70			15	3
4 Indian Brook to Smoky Head.....	1	12	200	4	110	1274	125	293	8140	2975	44	354	6100	1200		11	183			299	4
5 South and North Bays.....	1	16	300	5	135	2300	292	440	10560	2744	72	450	12220		29	50				420	5
6 Ingonish and vicinity.....	1	14	300	5	12	160	26	48	1152	182	5	35								30	6
7 Green Cove and South Point.....					24	217	25	30	630	190	8	60	3900						1400	15	7
8 Neils Harbour.....					79	1294	73	140	3040	821	13	100						10879	49	8	
9 New Haven.....					54	791	57	71	1490	371	2	7						2100	5	9	
10 Dingwall.....					20	320	60	76	3240	1410			17370			10				238	10
11 White Point.....					22	442	27	38	1440	728	11	76	2000	1440	22	166				78	11
12 Sparlings Brook to Money Point.....					12	96	22	14	420	120						8				118	12
13 Bay St. Lawrence and vicinity.....					40	384	140	78	2470	990	1	10	5146		1	45				129	13
Totals.....	3	42	800	14	614	8370	989	1456	37237	11693	205	1210	51376	2640	63	714	15650	14479		1505	
Values.....													10315	396	945	2836	157	1737		22376	

## SESSIONAL PAPER No. 22

Return showing the quantity and value of fish, &amp;c.—Nova Scotia—Con.

Number.	Distracts.	KINDS OF FISH.																	TOTAL VALUE OF ALL FISH.	Number.
		Lobsters, preserved in cans, lbs.	Lobsters, fresh, in shell, cwt.	Cod, dried, cwt.	Haddock, fresh, lbs	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Alwives or Gas- pereau, bbls.	Eels, bbls.	Oysters, bbls.	Tom cod or frost fish, lbs.	Squid, bbls.	Coarse and mixed fish, bbls.	Fish oil, galls.		
Victoria County.																				
1	Big Bras d'Or.			286		150	13	174		1050	2550	35	51	75	2825		10	98	26	1
2	Little Narrows			350		12	2	15	2000	100	1800	11	13		600	4	3	66	13	2
3	Baddeck Bay and vicinity.		11	99												23		423	248	3
4	Indian Brook to Smoky Head	34488		714		198		49	1800							400		2000	185	4
5	South and North Bays	5832		2875		850		600								100		800	53	5
6	Ingonish and vicinity.	19920		1614		220										24		250	30	6
7	Green Cove and South Point	6048		156		30			22	1000						82		2834	97	7
8	Neils Harbour	11952		1221	3660	33		44	1000							94		2400	189	8
9	New Haven.	16032		1436	5100	103		50	9800							20		2000		9
10	Dingwall.	7776		250		50		50	9800							90		625		10
11	White Point.	4608		794		268		30	2525									40		11
12	Sparlings Brook to Money Point.		54			17		40								60		460	45	12
13	Bay St. Lawrence and vicinity.	11904		456		119														13
Totals.		122560	11	10305	8760	2050	15	424	18825	1150	4350	46	64	75	3425	897	13	11997	841	46
Values.		\$ 24512	55	41220	263	6150	34	848	1882	115	218	184	640	300	171	3588	26	3599	1262	57
																				\$ 124,105 08

Return showing the Number, Tonnage and Value of Vessels, Boats and Nets and the Quantity and Value of Fish in the County of Inverness, Province of Nova Scotia, for the Year 1901.

Number.	FISHING VESSELS AND BOATS.				FISHING GEAR OR MATERIALS.				KINDS OF FISH.							Number.					
	Vessels.		Boats.		Gill Nets.		Trawls.	Salmon, fresh, lbs.	Salmon, preserv- ed in cans, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserv- ed in cans, lbs.	Lobsters, fresh in shell, cwt.						
	Tonnage.	Value.	Men.	Number.	Value.	Men.											Fathoms.	Number.	Value.		
<i>Inverness County.</i>																					
1	12	150	4	63	877	134	32	1696	1445	25533	616	9	175	43608	150	1					
2	Grand Etang and vicinity	19	231	4160	84	26	1130	87	25	720	193	5	35	28368	860	2					
3	Eastern Harbour	2	21	350	8	18	540	10	14	300	220	10	200	15560		3					
4	Cheticamp	5	35	1000	95	85	3000	1200	10	200	1150	1039	108	1004	55	4					
5	Belle Côte	6	46	940	121	89	4360	1930	9	130	17370	108	108	5290	45	5					
6	Doucet's Cove to Chinnery Corner	7	67	1230	105	63	1950	1140	5	65	6500	94	94	20112	35	6					
7	Margaree and vicinity	8	10	150	22	14	350	140	4	20		42	300	1056	8	7					
8	Port Ban and Broad Cove	9	41	570	87	75	2125	750	46	190	1800	528	233	3400	1200	8					
9	Mabou and vicinity	10	45	900	80	250	7500	2500	150	750		280	145	15840	51	9					
10	Port Hood	11	32	320	50	53	1590	530	40	160		121	145	46176	10	10					
11	Judique and Vicinity	12	47	470	68	67	2010	670	75	300	1200		78	25680	700	11					
12	Long Point to Low Point	13	21	250	23	20	600	260	20	80		400	4200	1500	70	12					
13	Port Hastings to Port Hawkesbury	14	28	336	42	112	1464	560	20	60		383	1500	500	229	13					
14	West Bay	15	50	600	85	200	4000	1000	12	36		50	150000			14					
15	Malagawatch	16	50	600	69	189	3780	945	17	42		50	250000		15	15					
16	Denis River	17	28	395	56	31	620	248	4	20		10	200		16	16					
17	Whycocomagh and Lake Anslie														17	17					
Totals		23	304	5660	103	641	13766	1332	1354	36014	14147	422	2138	63253	2193	2618	702100	5500	897	240868	1441
Values														12851	327	10472	7021	680	13456	49171	7205

**RETURN showing the kind and Quantities of Fish and Fish Products in the County of Inverness, Province of Nova Scotia for the Year 1901.**

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## RECAPITULATION

Of the Yield and Value of the Fisheries of the Island of Cape Breton for the Year 1901.

Kinds of Fish.	Quantity.	Rate.		Value.		Total Value.	
		\$	cts.	\$	cts.	\$	cts.
Salmon, fresh..... Lbs.	146,223	0	20	29,244	60		
" preserved in cans..... Brls.	5,363	0	15	804	45		
" pickled..... Brls.	87	15	00	1,305	00		
						31,354	05
Herring, salted..... "	17,485	4	00	69,940	00		
" fresh..... Lbs.	906,750	0	01	9,087	50		
						79,027	50
Mackerel, fresh..... "	182,499	0	12	21,899	88		
" salted..... Brls.	12,057	15	00	180,855	00		
						202,754	88
Lobsters, preserved in cans..... Lbs.	1,118,432	0	20	223,686	40		
" fresh or alive..... Cwt.	3,313	5	00	16,565	00		
						240,251	40
Cod, dried..... "	67,683	4	00	270,732	00		
" tongues and sounds..... Brls.	145	10	00	1,450	00		
						272,182	00
Haddock, dried..... Cwt.	14,711	3	00	44,133	00		
" fresh..... Lbs.	232,010	0	03	6,960	30		
" smoked, finnan haddies..... "	91,400	0	06	5,484	00		
						56,577	30
Hake, dried..... Cwt.	3,551	2	25	7,989	75		
" sounds..... Lbs.	691	0	50	345	50		
						8,335	25
Pollock..... Cwt.	6,662	2	00			13,324	00
Halibut..... Lbs.	199,855	0	10			19,985	50
Trout..... "	12,087	0	10			1,208	70
Shad..... Brls.	14	10	00			140	00
Smelts..... Lbs.	98,730	0	05			4,936	50
Alewives..... Brls.	2,351	4	00			9,404	00
Eels..... "	1,244	10	00			12,440	00
Oysters..... "	333	4	00			1,332	00
Flounders..... Lbs.	996,200	0	05			49,810	00
Tom cod or frost fish..... "	59,325	0	05			2,966	25
Squid..... Brls.	3,706	4	00			14,824	00
Coarse and mixed fish..... "	5,822	2	00			11,644	00
Fish oil..... Galls.	41,016	0	30			12,304	80
Fish as bait..... Brls.	13,563	1	50			20,344	50
Fish as manure..... "	335	0	50			167	50
Seal skins..... No.	46	1	25			57	50
Total for 1901.....						1,065,371	63
" 1900.....						1,072,086	93
Decrease.....						6,715	30

SESSIONAL PAPER No. 22

## STATEMENT

SHOWING the Number and Value of Fishing Vessels, Boats, Nets, &c., in the Island of Cape Breton for the Year 1901.

Articles.	Value.		Total.
	\$	cts.	\$ cts.
101 fishing vessels, 2,913 tons (637 men).....	37,210	00	
3,009 fishing boats (5,353 men).....	55,641	00	
17,798 gill-nets (365,749 fathoms).....	105,521	00	
6 seines (790 fathoms).....	1,050	00	
11 trap-nets.....	250	00	
2,280 trawls.....	13,225	00	
31 weirs.....	300	00	
74 smelt nets.....	684	00	
12,723 hand lines.....	8,475	00	
			222,356 00
67 lobster canneries (1,187 persons employed).....	43,040	00	
166,248 " traps.....	68,331	00	
			111,371 00
30 freezers and ice-houses.....	10,280	00	
1,403 smoke and fish-houses.....	42,179	00	
379 piers and wharfs.....	66,683	00	
55 tugs, steamers and smacks.....	9,670	00	
			128,812 00
Total.....			462,539 00

NOVA SCOTIA—*Con.*—DISTRICT No. 2, FOR THE YEAR 1901.RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &c., and Quantities of Fish—Nova Scotia—*Con.*

Number.	DISTRICTS.			FISHING BOATS.			FISHING GEAR, &c.			KINDS OF FISH.													
	Boats.			Men.			Gill Nets.			Salmon, fresh, lbs.	Salmon, smoked, lbs.	Herring, salted, dls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, bls.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Haddock, fresh, lbs.	Haddock, dried cwt		
	Number.	Value.		Number.	Fathoms.	Value.	Number.	Fathoms.	Value.														
Cumberland County.																							
1	69	1145		70			192	3885	1007						400	2	405648						
2	98	2350		130			245	7100	1200						6000		82704	40					
3	20	170		24			17	2850	245														
4	15	120		17			35	350	175	3000													
5	4	80		8			2	80	40	1500										60		50	
6	7	140		14			5	200	75	1500										90		200	
7	6	120		12			6	240	80			80								125		100	
8	2	35		4			3	40	21			100								225		200	
9	8	200		15			14	490	70	400		150								150		50	
10	5	100		10			3	100	40	5000		90								150		200	
11	2	65		4			2	120	16	600		50								150		40	
Totals	236	4525		308			524	15435	2969	12600	1300	470	100000	615000	6400	2	488352	40	800	3200	640		
Values										2520	260	1880	1000	12500	768	30	97670	200	3200	96	1920		

## SESSIONAL PAPER No. 22

## RETURN showing the Quantity and Value of Fish, &amp;c.—Nova Scotia—Con.

DISTRICTS.	KINDS OF FISH.														TOTAL VALUE OF ALL FISH.	Number.				
	Smoked Finnan Haddies, lbs.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, bbls.	Smelts, lbs.	Alewives or Caspereau, bbls.	Bas, lbs.	Eels, bbls.	Oysters, bbls.	Flounders, lbs.	Torn Cod or Frost Fish lbs.	Squid, bbls.			Coarse and Mixed Fish, bbls.	Fish, Oil, galls.	Fish as bait, bbls.	Fish as manure, bbls.
Cumberland County.																				
1	Pugwash, Malagash and Gulf shore.	..	..	..	250	..	4+000	..	500	10	294	..	10000	680	200	..	1409	1350	90,091 00	1
2	Port Philip, Northport and Amherst Shore	..	..	..	..	..	20000	50	500	..	..	..	..	..	..	..	4400	275	39,774 00	2
3	Wallace.	..	..	..	..	..	14200	200	..	..	600	..	..	..	45	..	..	..	4,000 00	3
4	River Philip.	..	..	..	500	10	10000	450	1000	15	..	..	10000	..	200	..	..	..	8,700 00	4
5	Laplanche, Nappan and Maccan	..	..	..	..	..	50	4000	175	..	..	..	300	..	..	..	..	..	1,715 00	5
6	Minudie to Apple River.	800	..	..	..	..	50	5000	50	..	..	..	2500	..	..	..	10	..	4,813 00	6
7	Advocate	100	50	..	1000	..	..	..	..	..	..	1000	..	..	..	..	..	..	1,563 00	7
8	Spencer's Island	..	..	100	800	300	..	..	..	..	..	800	..	..	..	..	..	..	1,550 00	8
9	Port Greville.	..	50	700	200	200	..	..	..	..	..	2300	300	..	..	45	25	..	2,894 00	9
10	Parraboro.	..	40	500	400	400	..	..	..	..	..	200	200	..	..	20	..	..	2,736 00	10
11	Two Islands.	..	10	700	..	..	..	..	..	..	..	200	200	..	..	..	..	..	1,156 00	11
Totals.		900	100	200	2700	2650	410	187200	925	1500	25	884	4500	23300	630	445	65	5844	1625	..
Values		54	225	400	270	265	4100	9360	3700	150	250	3576	225	1165	2720	890	19	8766	813	158,792 00



Return showing the Number of Boats, Nets, &c., and the quantities of Fish—Nova Scotia.—*Con.*

Number.	DISTRICTS.				FISHING VESSELS AND BOATS.			FISHING GEAR			KINDS OF FISH.							Number.
	Districts.				Fishing Vessels and Boats.			Fishing Gear			Kinds of Fish.							
Boats.				Gill Nets.														
Number.	Value.	Men.		Number.	Fathoms.	Value.	Salmon, fresh, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Haddock, fresh, lbs.	Haddock, dried, cwt.				
Colchester County.																		
1	24	480	24	24	20	2424	38200	5	4000	5000	39120	150	2500	25	1			
2	92	696	135	14	8	3000	500	12	4000	5000		25	2500	25	2			
3	3	80	14	24	22	7000	425	17084	4000	5000		25	2500	25	3			
4	8	260	24	20	22	7000	1450	17084	4000	5000		25	2500	25	4			
5	22	600	50	40	20	6000	1300	9000	4000	5000		25	2500	25	5			
6	20	475	40	70	18424	4350	67284	17	4000	5000	39120	175	2500	25	6			
	169	2591	287	70	18424	4350	67284	68	40	100	7824	700	2500	25	Totals.			
							13457						75	75	Values.			
															\$.			

RETURN showing the quantity and Value of Fish, &c.—Nova Scotia.—Con.

Number.	Districts.	KINDS OF FISH.												TOTAL VALUE OF ALL FISH.	Number.	
		Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, brls.	Smelts, lbs.	Alewives or Gaspereau, brls.	Bas, lbs.	Clams, brls.	Oysters, brls.	Fish oil, galla.	Fish as bait, brls.			Fish as manure, brls.
Colchester County.																
1	Sterling .....				400	176	7784				210			130	9,158 00	1
2	Stewiacke .....				2600	3		110	9560						11,050 00	2
3	Five Islands .....	15	8	2500	2000	3						150	23		1,480 00	3
4	Economy .....				5000	17						10	2		1,464 00	4
5	Little-Bass River to Highland Village .....				700	39			350	450					4,812 00	5
6	Great Village to Queens Village .....				300	18									2,010 00	6
	Totals. ....	15	8	2500	11000	253	7784	110	9850	450	210	160	25	130	.....	
	Values. ....	34	16	250	1100	2230	389	440	985	900	840	48	38	65	29,974 00	

2-3 EDWARD VII., A. 1903

RETURN showing the Number of Boats, Nets, &c., and the quantity and value of Fish in Pictou Co.—Nova Scotia—Continued.

Number.	DISTRICT.	FISHING VESSELS AND BOATS.			FISHING MATERIALS.			KINDS OF FISH.									
		Boats.			Gill Nets.			Salmon, fresh, lbs.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Haddock, fresh, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	
		Number.	Value.	Men.	Number.	Fathoms.	Value.										
	<i>Pictou County.</i>		\$														
1	West Pictou . . .	158	3950	165	130	3900	910	5600	12000	3000	262416	....	68	....	....	..	....
2	Pictou Island.....	88	2480	104	40	900	240	..	.....	.....	152256	....	....	....	....	..	....
3	Central Division..	10	250	12	20	400	100	.....	.....	.....	....	....	20	....	110	200	....
4	Southern Division.	34	474	32	51	2619	1105	21100	56000	...	18616	..	46	500	5	...	....
5	Merigonish Island.	13	250	14	24	1232	650	5800	2000	.....	15504	....	....	....	....	..	....
6	North Beach.....	13	177	13	31	1797	1780	13100	30000	2600	3024	....	1	....	21	...	....
7	Ponds.....	15	320	17	35	1122	582	6100	17000	600	27264	60	4	...	22	...	....
8	Lisimore.....	3	34	3	4	440	410	2400	....	....	....	50	...	....	....	..	....
	Totals....	334	7935	360	335	12310	5777	54100	117000	6200	479080	110	139	500	158	200	....
	Values '\$	....	....	....	....	....	....	10820	1170	744	95816	550	556	15	356	100	....

SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish—**Nova Scotia**—Continued.

Number.	DISTRICT.	KINDS OF FISH.											TOTAL VALUE OF ALL FISH.	
		Trout, lbs.	Smelts, lbs.	Alewives or gaspereau, brls.	Eels, brls.	Clams, brls.	Oysters, brls.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.		Fish as manure, brls.
	<i>Pictou County.</i>													\$ cts.
1	West Pictou .....	200	5000	25	10	25	12	300	250	10	20	1200	800	58,164 00
2	Pictou Island. ....											200	500	31,001 00
3	Central Division..	3000	2000		50		50							1,528 00
4	Southern Division.	500	3200			5								8,933 00
5	Merigonish Island.		1900								15	80	50	4,525 00
6	North Beach.....	400	800		34									4,308 00
7	Ponds .....	400			6							70	90	7,531 00
8	Lismore.....	100										10		755 00
	Totals...	4600	12900	25	100	30	62	300	250	10	35	1560	1440	
	Values ..\$	460	645	100	1000	60	248	15	1000	20	10	2340	720	116,745 00



## SESSIONAL PAPER No. 22

RETURN Showing the Quantity and Value of Fish, etc., in Antigonish, Nova Scotia—Continued.

DISTRICTS.	KINDS OF FISH.													FISH PRODUCTS.		TOTAL VALUE OF ALL FISH.	Number.		
	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Hallbut, lbs.	Trout, lbs.	Smelt, lbs.	Alewives or Gas- pereau, bris.	Bas, lbs.	Kels, bris.	Oysters, bris.	Flounders, lbs.	Squid, bris.	Coarse and mixed fish, bris.			Fish oil, galls.	Fish as bait, bris.
<i>Antigonish County.</i>																			
1 Harbour Bouché, Linwood and Cape Jack.	8100	8	45	114	115	25	50	690	4	11	11	...	8600	68	61	335	303	360	1
2 Tracadie, Bayfield, Monk's Head and South Side Anti- gonish Harbour.	...	...	...	...	...	...	200	7600	21	3000	46	185	3396	...	1	52	286	45	2
3 North Side Harbour, Lakeville, Ballantyne's Cove and South Side Cape George.	...	33	251	563	...	...	300	...	...	...	9	...	1200	11	...	...	73	336	3
4 North Side Cape George and Georgeville	...	40	300	603	500	...	20	...	...	700	...	...	1500	6	...	...	300	100	4
5 Malignant Cove, Doctor's Brook, Arisaig, Knoidart and Moidart.	...	80	750	1520	...	...	100	...	4	600	...	...	3000	...	...	...	450	79	5
Totals	8100	161	1346	2800	615	25	670	8290	29	4300	66	185	17636	85	62	387	1412	920	
Values	243	483	3023	1400	1230	2	67	415	116	430	660	740	882	340	124	116	2118	460	

RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets and the Quantity and Value of Fish in the County of Guysborough, Province of Nova Scotia, for the Year 1901.

Number.	FISHING VESSELS AND BOATS.				FISHING GEAR OR MATERIAL.						KINDS OF FISH.								Number.							
	Vessels.		Boats.		Gill Nets.			Seines.			Trap Nets.		Trawls.		Salmon, fresh, lbs.	Salmon, preserv'd in cans	Herring, smoked, lbs.	Herring, salted, brls.		Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.		
	Number.	Value.	Men.	Tonnage.	Number.	Value.	Fathoms.	Number.	Value.	Fathoms.	Number.	Value.	Number.	Value.												
Guy'sboro' County.																										
1	Ecum Serum.	1	32	800	8	61	1450	60	56	1120	280	2	160	250	5	40	400	...	40	900	2000	6	6624	28	1	
2	Marie Joseph.	1	32	800	8	61	1450	60	56	1120	280	2	160	250	5	40	400	...	115	1000	500	12	21696	256	2	
3	Liscomb Spanish Ship Bay and Goggin.	3	94	3000	28	120	3000	100	80	1800	450	1	150	75	40	250	5320	...	50	600	600	4	44448	503	3	
4	St. Mary's Bay and River.	...	...	...	35	750	45	60	1800	400	...	...	...	...	5	30	14300	200	400	70	800	100	3	21984	54	4
5	Wine Harbour.	...	...	...	26	600	50	50	1400	300	2	200	180	...	7	40	6000	300	75	600	200	4	...	...	5	
6	Indian Harbour & Lake.	...	...	...	35	600	50	80	1600	400	...	...	...	...	8	50	...	...	100	1000	400	10	...	...	6	
7	Holland's Harbour.	...	...	...	15	300	20	40	800	200	...	...	...	...	5	30	300	...	80	600	100	4	...	...	7	
8	Port Beckerton.	1	25	1000	8	60	1500	80	130	2700	680	...	...	...	35	180	800	...	180	1000	1000	35	25680	280	8	
9	Fisherman's Harb'r.	...	...	...	28	900	38	80	1600	400	...	...	...	...	8	50	100	...	15	500	600	35	24000	200	9	
10	Country Harb'our and River.	...	...	...	10	160	18	15	400	120	...	...	...	...	3	20	8500	...	40	600	300	5	...	...	10	
11	Isaac's Harbour.	...	...	...	30	800	40	90	2000	500	...	...	...	...	6	40	600	...	130	1000	1000	33	16752	149	11	
12	Drum Head.	...	...	...	45	1600	45	115	2300	600	...	...	...	...	40	300	400	...	175	1000	1000	35	...	...	12	
13	Seal Harbour.	...	...	...	40	1200	40	100	2000	500	...	...	...	...	12	85	...	...	100	600	800	18	32832	224	13	
14	Coddle's Harbour.	...	...	...	30	800	30	100	2000	500	1	150	80	...	10	75	...	...	60	400	600	20	16128	47	14	
15	New Harbour.	...	...	...	75	2000	100	230	4600	1150	2	200	150	...	12	85	500	...	80	500	500	115	13920	40	15	
16	Tor Bay.	...	...	...	32	815	35	153	3060	1836	...	...	...	...	6	42	...	...	70	...	1200	62	20616	139	16	
17	Larry's River.	4	108	2700	16	105	3632	100	650	13000	7800	...	...	...	27	170	...	...	423	...	...	413	...	...	17	
18	Charles Cove.	2	58	450	11	75	2275	68	362	7240	4344	...	...	...	39	262	...	...	290	100	600	110	36768	108	18	
19	Cole Harbour.	1	10	150	5	47	1075	43	452	9040	5424	2	113	200	2	240	...	...	262	...	...	105	...	...	19	
20	Port Felix.	4	69	1800	21	107	2913	102	960	19380	11648	1	20	8	...	...	...	...	643	8900	34740	279	23424	144	20	

## SESSIONAL PAPER No. 22

## RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &amp;c.—Nova Scotia—Continued.

Districts.	Fishing Vessels and Boats.				Fishing Gear or Material.										Kinds of Fish.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	Vessels.		Boat.		Gill Nets.			Seines.			Trap Nets.		Trawls.		Salmon, fresh, lbs.	Salmon, pres'd in cans	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Number.	Tonnage.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
<i>Guy'sboro' Co.—Continued.</i>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		



## RETURN showing the Quantities of Fish, &amp;c., in Guysborough,—Nova Scotia—Continued.

Number.	DISTRICTS.	KINDS OF FISH.												FISH PRODUCTS.					TOTAL VALUE OF ALL FISH.	Number.			
		Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked fin- nan haddies, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelt, lbs.	Alvies or Gaspereau, brls.	Eels, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.			Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.
Guysborough County.																							
1	Ecum Serum .....	175		1000	30			25	500	400	300	10	12	300	1000	30	40	30	40	150	30		3,696
2	Marie Joseph .....	675		1000	45			15	1200	100	300	12	10	400	1500	40	50	40	50	200	70		10,428
3	Liscomb Spanish Ship Bay and Gogoggin ..	650		2000	110		14		35	3200	250	600	50	10	600	2000	40	100	700	300	150		17,798
4	St. Mary's Bay and River .....	100		600	20			6	1000	3000	1500	60	20	200	1000	20	20	20	100	100	70		9,783
5	Wine Harbour .....	30		300	6			3	1500				10	10	300	500	8	6	40	100			2,839
6	Indian Harbour and Lake .....	80		400	6			6	1200	400	5000	30	10	200	1200	12	12	12	100	120			1,952
7	Holland's Harbour .....	40		300	5			4	600	600		10	8	400	800	12	14	50	120	80			1,281
8	Port Beckerton .....	480		6000	80			25	4000	300	200	10	12	600	1000	40	30	500	150				11,736
9	Fisherman's Harbour ..	275		2000	48			10	600			5	6	400	800	20	10	300	100	80			9,186
10	Country Harbour and River .....	50		500	6			3	300	600	1000	16	10	200	500	14	8	50	50				2,717
11	Isaac's River .....	130		800	12			8	6000	500	1000	15	10	300	400	16	10	140	80	25			7,100
12	Drum Head .....	520		2000	75			90	18700			20	8	400	800	40	30	600	120				6,650
13	Seal Harbour .....	500		3000	90			75	3325			15	6	400	800	30	20	600	120	110			12,055
14	Coddle's Harbour .....	400		500	40			80	2500			30	12	300	800	30	30	400	100	50			6,992
15	New Harbour .....	1300		2000	200			175	11000	600	3000	40	15	300	1000	60	100	1400	130	50			14,169
16	Tor Bay .....	251		73	200			118	1726	400		4				33	40	400	104	100			10,198
17	Larry's River .....	1752	4	279	279			270	10702	270	435	23	33			253	124	1800	462	86	1		21,008
18	Charles Cove .....	948	1	211	211			147	3030	300	323	25	30			151	22	834	307	122			17,314
19	Cole Harbour .....	389		172	172			31	365	500		42	6			69	17	340	236	61			5,853
20	Port Felix .....	2634	3	20700	739			302	1506	814	850	125	35			237	72	1540	691	180	2		34,379
21	Whitehead .....	900	3	105888	384			1032	3760	200		81	11			155	30	2008	609	240			39,464
22	Raspberry and Dwyer ..	743		10420	63		4	304	130			10	22			252	30	579	300	280			108,287

## SESSIONAL PAPER No. 22

RETURN showing the Quantities of Fish, &amp;c., in Guysborough.—Nova Scotia—Continued.

DISTRICTS.	KINDS OF FISH.														FISH PRODUCTS.				TOTAL VALUE OF ALL FISH.	Number.			
	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked fin- nan haddies, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Alewives or gaspereau, brls.	Eels, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.			Fish as bait, brls.	Fish as manure, brls.	Seal skins, number.
<i>Guysborough County— Continued.</i>																							
23 Canso and Canso Tittle	21818	10	1736680	23066	350000	1246	1330	8764	149334	1000	2000	182	2				3314	17	39212	2305	350	365,007	23
24 Fox Island Maine	93		10400	3					60								230	20	69			5,518	24
25 Half Island Cove	507		45750	47				23	22								435		682	141	92	26,680	25
26 Philip's Harbour	314		46900	32		12	2	38									208		584	231	95	9,251	26
27 Queensport	838		151200	359		886	300	143				33					6200		2384	147	372	71,914	27
28 Peas Brook	178		13100	222		46	18	34	538			1					100		538	121	76	3,416	28
29 Halfway Cove	240		16500	561		34	21	387				23					224	5	797	252	114	11,754	29
30 Sandy Cove and Cook's Cove	145		24100	94		19	8	435	184		6000	16	20				321		453	132	8	22,392	30
31 Guysborough and Man- chester	82		11470	46		7	3	340	409	1000	10000	8	5				110		294	127		13,157	31
32 Ragged Head	98		9750	30		33	10		1			5							98	61	10	4,798	32
33 St. Francis	178		15600	43		158	170			80		13							132	113		10,167	33
34 Oyster Ponds	56		6300	32				30	2500			75	2				20		66	108		2,716	34
35 Sand Point	16		1100	5		20	36	5				10					20		44	73	4	3,716	35
36 Sheep Creek	66		50900	17		15		17				16							104	104	110	14,152	36
37 Mulgrave and Auld's Cove	27		500	2		5	10	2				3							20	26		9,806	37
Totals	37718	21	2294658	30163	35000	3215	2774	13003	229353	11314	32508	1035	325	3300	1100		12744	814	58900	8649	3015	3	.....
Values	150872	210	68000	90489	21000	7234	1387	26006	22035	1131	1625	4140	3250	245	705		50976	1628	17580	12972	1507	4	928,668

## RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &amp;c.—Nova Scotia—Continued.

District.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.											
	Vessels.			Boats.			Gill Nets.			Seines.			Trawls.			Salmon, fresh, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.									
Halifax County.																								
1 North Shore.....	2	60	1400	13	112	1800	200	712	2440	2135	62	6200	12400	20	100	900	50	100	1200	1000	2000	3000	3000	1
2 East St. Margaret's.....	2	40	800	12	120	1200	150	612	1440	2040	18	1800	3600	70	350	1000	75	175	1300	700	3000	1000	3600	2
3 Indian Harbour.....	2	50	800	13	200	3000	160	3015	65500	3275	20	2000	2000	25	125	2000	150	150	3000	4000	4000	1000	1000	3
4 Peggy's Cove.....	3	60	1200	18	220	2500	80	320	6400	1800	7	700	1400	15	75	900	50	50	500	900	300	500	500	4
5 Dover.....	1	22	400	5	135	2500	150	740	14800	2800	40	4000	8000	26	150	2000	90	280	1000	100	10000	6000	6000	5
6 Prospect.....	7	65	1100	17	100	1500	200	300	6000	900	26	2300	3000	115	500	1200	40	500	15000	15000	2000	2000	17952	6
7 Terrence Bay.....	8	120	2000	32	40	500	75	150	3000	600	11	1100	2200	60	300	300	...	200	1000	12000	1000	1000	17952	7
8 Pennant.....	2	60	1500	18	50	600	112	280	5600	840	9	900	1800	50	250	300	...	90	700	2000	2000	500	500	8
9 Sambro.....	1	17	300	5	60	800	125	210	4200	870	13	1300	2600	40	200	700	...	60	700	5000	1000	1000	50688	9
10 Ketch Harbour.....	5	180	2000	30	65	700	50	86	1760	380	24	2400	4000	80	400	400	...	60	1000	5000	1000	1000	1000	10
11 Portuguese Cove.....	1	30	400	8	34	600	50	60	1320	240	30	3000	6000	10	50	300	...	70	200	2000	500	500	11	
12 Herring Cove.....	1	50	2000	12	20	440	25	10	200	30	10	1000	2000	10	50	300	...	20	100	4000	2000	2000	12	
13 Ferguson's Cove.....	1	30	400	8	34	600	50	60	1320	240	30	3000	6000	10	50	300	...	70	200	2000	500	500	13	
14 Halifax.....	1	50	2000	12	20	440	25	10	200	30	10	1000	2000	10	50	300	...	20	100	4000	2000	2000	14	
15 Eastern Passage and Devil's Island.....	1	50	2000	12	20	440	25	10	200	30	10	1000	2000	10	50	300	...	20	100	4000	2000	2000	15	
16 Cow Bay and Lawrencetown.....	1	50	2000	12	20	440	25	10	200	30	10	1000	2000	10	50	300	...	20	100	4000	2000	2000	16	
17 Seaforth and Three Fathom Har- bour.....	4	185	3500	49	137	1424	64	410	4900	322	...	...	...	...	320	...	...	18	...	...	...	9	1296	17
18 West Chezetcook.....	2	85	1900	26	50	510	33	113	2400	590	...	...	...	...	...	...	...	320	...	...	...	136	136	18
19 East Chezetcook.....	2	85	1900	26	43	800	36	76	4560	304	...	...	...	...	...	...	...	68	...	...	...	13	13	19
20 Pictou Harbour.....	1	37	600	10	54	1000	44	95	5700	380	...	...	...	...	...	...	...	98	...	...	...	30	20250	20
21 Musquodoboit Harbour.....	1	37	600	10	73	900	63	200	12000	900	1	75	45	...	...	1085	...	32	...	...	...	18	18	21
22 Jeddore.....	5	90	1525	19	83	1700	64	325	18500	1300	3	3000	500	...	...	250	...	190	...	...	...	92	23760	22
23 Cluan Harbour and Owl's Head.....	1	14	250	3	32	488	18	91	5460	375	...	...	...	...	...	600	...	516	...	...	...	78	20400	23
24 West Ship Harbour.....	1	23	300	4	27	563	37	108	2100	432	...	...	...	...	...	600	...	146	...	...	...	23	23	24
25 East Ship Harbour.....	1	23	300	4	27	563	37	108	2100	432	...	...	...	...	...	600	...	146	...	...	...	23	23	25
26 Pleasant Harbour and Taigior.....	1	13	260	3	32	1280	59	195	1820	384	...	...	...	...	...	500	...	380	...	...	...	62	19200	26

## SESSIONAL PAPER No. 22

RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &amp;c.—Nova Scotia—Continued.

District.	FISHING VESSELS AND BOATS.						FISHING GEAS OR MATERIALS.						KINDS OF FISH.											
	Vessels.			Boats.			Gill Nets.			Seines.			Trawls.			Salmon, fresh, lbs.	Salmon, smoke, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.									
<i>Halifax County—Continued.</i>																								
27	Pope's Harbour and Gerrard's Island	1	56	500	9	46	1162	52	205	4100	820	2	20	69	27440	27								
28	Spry Bay, Taylor's Head and Mus haboon				72	1986	74	581	10660	2072			1	10	387	28068	28							
29	Sheet Harbour and Sober Island				44	915	60	196	3920	780							400	1200						
30	Beaver Harbour and Port Dufferin				11	242	17	34	680	134														
31	Quoddy and Harrigan Cove				2	10	3	2	40	6														
32	Moer River and Smith's Cove				6	135	8	9	180	36														
33	Mitchell's Bay and vicinity				20	375	27	27	540	108	6	470	250											
	Totals	49	1237	22725	306	2131	33040	2432	10281	256680	30873	388	86245	62235	651	3142	14929	2386	6156	26600	5800	87900	21385	440784
	Values																2986	479	24624	266	116	10584	320775	88156

2-3 EDWARD VII., A. 1903

RETURN showing the Quantity and Value of Fish, &amp;c.—Nova Scotia—Continued.

District.	KINDS OF FISH.														FISH PRODUCTS.					TOTAL VALUE OF ALL FISH.	Number.						
	LOBSTERS, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked fin- nan haddies, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Alievers or Caspereau, brls.	Kels, brls.	Clams, brls.	Oysters, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Squid, brls.			Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Seal skins, number.	
Halifax County.																											
1 North Shore.....	1000	500	5	1000	50	25	50	25	300	1000	500	..	25	5	5	..	12000	1000	200	160	1000	75	90	56,172	1		
2 East St. Margaret's.....	1000	1000	10	1000	760	200	400	1500	400	1500	400	..	10	3	20	..	12000	12000	500	200	1500	90	60	33,427	2		
3 Indian Harbour.....	2000	1200	12	..	60	400	70	200	3000	100	100	..	30	1	..	..	1000	7000	100	200	1500	200	..	35,365	3		
4 Peggy's Cove.....	600	500	5	..	100	10	10	90	500	500	..	..	3	2	..	..	1000	1200	20	20	250	60	..	13,988	4		
5 Dover.....	3000	1200	13	..	400	500	150	200	3000	200	..	..	20	5	40	..	6000	8000	600	300	2000	230	..	120,695	5		
6 Prospect.....	500	800	5	300	100	100	80	150	400	100	100	..	10	1	..	..	2000	2000	90	10	600	50	..	39,764	6		
7 Terrence Bay.....	500	700	11	200	80	190	170	150	1000	1000	..	..	50	10	..	..	1200	3000	100	40	600	70	60	28,713	7		
8 Pennant.....	50	1000	4	..	80	70	50	350	100	350	100	..	25	1	..	..	500	1000	50	8	400	70	..	13,503	8		
9 Sambro.....	70	1200	1	1000	90	400	150	200	1400	200	200	..	3	..	..	..	1000	2000	100	50	1000	100	170	21,300	9		
10 Ketch Harbour.....	20	200	2	1000	12	15	10	60	500	..	..	..	5	..	..	..	100	500	40	5	50	15	..	17,489	10		
11 Portuguese Cove.....	10	80	1	15000	100	70	40	400	..	400	..	..	3	..	..	..	600	1000	60	10	60	15	..	33,008	11		
12 Herring Cove.....	5	375	6	18000	200	112	75	1200	75	1200	..	..	5	..	..	..	500	1000	70	10	340	80	..	19,448	12		
13 Ferguson's Cove.....	8	400	2	11000	..	15	15	2000	15	2000	..	..	..	..	..	..	200	500	10	5	90	20	..	10,444	13		
14 Halifax.....	50	75	..	10000	4000	..	50	25	60	1000	1000	..	..	..	..	..	100	600	5	5	50	6	..	3,605	14		
15 Eastern Passage and Devil's Island.....	..	945	1	60208	79	..	..	..	160	8427	..	..	15	8	..	..	7000	..	..	..	610	98	..	10,714	15		
16 Cow Bay and Lawrence- town.....	..	74	..	..	2	..	..	12	95	500	..	..	25	5	100	..	8000	..	..	..	35	6	..	1,478	16		
17 Seaforth and Three Fath- om Harbour.....	38	48	..	..	7	..	..	3	110	200	10000	..	25	6	..	..	6000	..	..	..	23	4	..	1,943	17		
18 West Chetzetcook.....	2824	2	2	184	95	2523	..	95	2523	3500	100	..	100	5	200	..	6000	..	..	..	1557	200	..	16,928	18		
19 East Chetzetcook.....	1276	..	..	168	168	2110	600	47	2110	600	1500	..	20	7	..	..	8000	..	..	..	666	143	..	7,490	19		
20 Petesawick Harbour.....	298	395	..	1250	85	85	..	77	1014	600	800	..	7	8	..	..	5000	..	..	..	294	40	70	8,987	20		
21 Musquodoboit Harbour.....	575	575	..	2000	90	..	7	77	2480	1840	6000	..	5	8	..	6	5500	..	..	..	317	68	..	4,849	21		
22 Jeddore.....	346	1758	..	111	111	..	..	177	3210	350	1200	..	8	100	..	..	10000	..	..	..	1212	186	80	18,030	22		
23 Clam Harbour and Owl's Head.....	445	743	..	76	76	..	..	20	2290	650	1500	..	5	4	..	..	18000	..	..	..	418	85	70	14,537	23		

## SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish, &amp;c.—Nova Scotia—Continued.

District.	KINDS OF FISH.														Fish Products.				TOTAL VALUE OF ALL FISH.	Number.						
	LOBSTERS, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and scales, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked fin- nan haddies, lbs.	Hake, dried, cwt.	Hake, scales, lbs.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Alewives or Raspeyren, brls.	Eels, brls.	Clams, brls.	Oysters, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.			Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Seal skins, number.
<i>Halifax County—Con.</i>																										
24 West Ship Harbour. . . . .		146	..	..	18	..	..	17	790	200	800	85	3	..	..	..	..	4000	..	..	..	82	15	..	..	2,306 24
25 East Ship Harbour . . . . .		370	..	..	70	..	..	7	2015	150	..	10	..	..	..	..	..	..	..	15	..	192	12	..	..	2,593 25
26 Pleasant Harbour and Tangier . . . . .		300	510	..	80	..	7	15	2800	500	..	..	..	..	..	..	..	..	..	8	..	600	18	70	..	10,887 26
27 Pope's Harbour and Ger- tard's Island . . . . .		142	815	..	40	..	..	26	4616	..	..	..	..	..	..	..	..	..	..	39	..	584	20	80	..	13,940 27
28 Spry Bay, Taylor's Head and Mushaboon. . . . .		80	760	..	106	..	30	80	4230	200	..	3	5	..	..	..	..	..	..	63	..	780	23	100	..	21,472 28
29 Sheet Harbour and Sober Island . . . . .		410	605	..	42	..	..	40	3830	500	..	..	..	..	..	..	..	..	..	20	..	346	12	110	..	15,377 29
30 Beaver Harbour and Port Dufferin. . . . .		507	185	..	8	..	..	6	120	..	..	..	..	..	..	..	..	..	..	8	..	162	4	130	8	12,018 30
31 Quoddy and Harrigan Cove. . . . .		923	40	..	2	..	..	..	150	400	..	..	..	..	..	..	..	..	..	1	..	20	2	300	..	24,022 31
32 Moer River and Smith's Cove. . . . .		100	..	..	3	..	..	2	250	200	..	..	8	..	..	..	..	..	..	3	..	47	..	..	..	654 32
33 Mitchell's Bay and vi- cinity . . . . .		540	250	..	20	..	..	4	2000	..	..	..	4	..	..	..	..	..	..	12	..	175	10	200	9	16,802 33
Totals . . . . .	12842 21449	80	128958	2043	4000	2968	1232	2897	59616 9450	25300	489	107	465	6110700	40800	2114	1023	17560	2028	1580	17	5288	3043	791	21	661,426
Values . . . . .	\$64210 85796	800	3808	6129	240	6725	616	5794	5962	945	5635	2040	8456	2046	5288	3043	791	21	661,426							

2-3 EDWARD VII., A. 1903

RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &amp;c.,

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.			
		Vessels.				Boats.			Gill Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.
	<i>Hants County.</i>										
1	Maitland to Shubenacadie . . . . .					9	90	9	16	245	112
2	Shubenacadie to Grand Lake. ....					19	190	20	54	550	227
3	Walton to Maitland . . . . .					7	200	12	7	1950	295
4	Hantsport to Brooklyn . . . . .					10	280	10	10	1850	360
5	Brooklyn to Kempt . . . . .	1	18	300	2	5	195	5	9	740	195
6	Kempt and vicinity . . . . .					3	110	10	3	1000	113
	Totals . . . . .	1	18	300	2	53	1065	66	99	6335	1302
	Values.....\$										

## SESSIONAL PAPER No. 22

and the Quantity and Value of all Fish—Nova Scotia—Concluded.

KINDS OF FISH.													TOTAL VALUE OF ALL FISH.	Number.	
Salmon, fresh, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Cod, dried, cwt.	Haddock, dried, cwt.	Pollock, cwt.	Trout, lbs.	Shad, brls.	Smelts, lbs.	Alewives or gaspereau, brls.	Bass, lbs.	Clams, brls.	Flounders, lbs.			Tom cod or frost fish, lbs.
1150	...	...	...	...	...	500	...	...	31	...	...	...	...	\$ cts. 404 00	1
520	...	...	...	...	...	500	2	...	167	...	...	...	...	842 00	2
1200	5	1000	20	...	...	200	23	...	5	...	60	...	...	740 00	3
1350	...	...	5	...	...	5000	32	...	10	...	...	...	...	1,150 00	4
300	...	15000	10	5	50	...	14	...	7	...	20	...	...	573 00	5
120	...	3000	43	...	16	250	15	2000	7	300	40	3000	2000	921 00	6
4640	5	19000	78	5	66	6450	86	2000	227	300	120	3000	2000		
928	20	190	312	15	132	645	860	100	908	30	240	150	100	4,630 00	



## RECAPITULATION

Of Yield and Value of the Fisheries in District No. 2, Nova Scotia with Comparative Statements of the Increase or decrease for the Years 1900 and 1901.

Kinds.	Quantity in 1901.	Rate.	Totals.	QUANTITIES.	
				Increase.	Decrease.
		\$ cts.	\$		
Salmon, fresh.....	Lbs. 322,256	0 20	64,451	58,506	
" preserved in cans.....	" 200	0 15	30		1,706
" smoked.....	" 5,395	0 20	1,079		733
Herring, salted.....	Brls. 13,289	4 00	53,156		13,896
" fresh.....	Lbs. 2,539,550	0 01	25,395	1,786,550	
" smoked.....	" 625,800	0 02	12,516	81,300	
Mackerel, fresh.....	" 1,568,173	0 12	188,180		1,006,830
" salted.....	Brls. 25,403	15 00	381,045		5,376
Lobsters, preserved in cans.....	Lbs. 2,255,704	0 20	451,140		220,434
" fresh in shell.....	Cwt. 16,160	5 00	80,800	2,786	
Cod, dried.....	" 61,019	4 00	244,076	6,009	
" tongues and sounds.....	Brls. 101	10 00	1,010		8
Haddock, fresh.....	Lbs. 2,440,916	0 03	73,227	7,516	
" dried.....	Cwt. 33,037	3 00	99,111	24,344	
" smoked finnan haddies.....	Lbs. 354,900	0 06	21,294	144,900	
Hake, dried.....	Cwt. 7,823	2 25	17,603		2,560
" sounds.....	Lbs. 7,006	0 50	3,503		844
Pollock.....	Cwt. 16,789	2 00	33,578	4,948	
Halibut.....	Lbs. 294,194	0 10	29,419		281,865
Trout.....	" 46,134	0 10	4,613	3,214	
Shad.....	Brls. 749	10 00	7,490		626
Smelts.....	Lbs. 275,982	0 05	13,799	52,732	
Alewives or gaspereaux.....	Brls. 2,840	4 00	11,360		472
Bass.....	Lbs. 15,950	0 10	1,595	7,275	
Eels.....	Brls. 623	10 00	6,230		255
Clams in shell.....	" 1,065	2 00	2,130	16	
Oysters.....	" 1,357	4 00	5,428		212
Flounders.....	Lbs. 141,136	0 05	7,057	10,611	
Tom cod.....	" 80,500	0 05	4,025		15,400
Squid.....	Brls. 15,873	4 00	63,492	13,727	
Coarse or mixed fish.....	" 2,354	2 00	4,708	166	
Fish oil.....	Galls. 76,807	0 30	23,042	20,688	
Fish used as bait.....	Brls. 19,518	1 50	29,277		14,206
Fish products used as manure.....	" 8,720	0 50	4,360	618	
Seal skins.....	No. 20	1 25	25	2	
Total, 1901.....			1,969,244		
Total, 1900.....			2,112,023		
Decrease.....			142,779		

SESSIONAL PAPER No. 22

## RECAPITULATION

SHOWING the Number and Value of Fishing Vessels, Boats, &c., in the District No. 2,  
Province of **Nova Scotia** for the Year 1901.

Material.	Value.	Total.
	\$	\$
92 vessels, 2,175 tons .....	45,600	
5,100 boats .....	98,459	
22,748 gill nets, 792,111 fathoms .....	169,092	
376 seines, 39,660 fathoms .....	67,473	
121 trap nets .....	23,405	
2,463 trawls .....	14,952	
32 weirs .....	5,040	
96 smelt nets .....	2,510	
8,543 hand lines .....	4,467	
		430,998
123 lobster canneries .....	106,869	
318,610 lobster traps .....	185,712	
		292,581
63 freezers and icehouses .....	28,732	
1,601 smoke and fishhouses .....	58,882	
805 wharfs and piers .....	49,975	
25 fishing smacks, tugs and steamers .....	960	
		159,049
<b>Total</b> .....		<b>882,628</b>

COMPARATIVE STATEMENT of the Value of the Fisheries in each County of District  
No. 2, **Nova Scotia** for the Years 1900 and 1901.

County.	Value in 1900.	Value in 1901.	Increase.	Decrease.
	\$	\$	\$	\$
Antigonish .....	74,648	69,009		5,639
Colchester .....	44,135	29,974		14,161
Cumberland .....	128,799	158,792	29,993	
Guysborough .....	711,117	928,668	217,551	
Halifax .....	1,028,423	661,426		366,997
Hants .....	5,987	4,630		1,357
Pictou .....	118,914	116,745		2,169
<b>Totals</b> .....	<b>2,112,023</b>	<b>1,969,244</b>	<b>247,544</b>	<b>390,323</b>
	<b>1,969,244</b>			<b>247,544</b>
<b>Net decrease</b> .....	<b>142,779</b>			<b>142,779</b>

## NOVA SCOTIA—District No. 3.

RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &c., and the Quantity and Value of Fish caught in District No. 3, Province of Nova Scotia, for the Year 1901.

Districts.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.						Number.				
	Vessels.			Boats.			Gill Nets.			Seines.			Trap Nets.		Salmon, fresh, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lbs.		Mackerel, fresh, lbs.	Mackerel, salted, brls.	Labsters, preserved in cans, lbs.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.									Value.
<i>Lunenburg County.</i>																							
1 Fox Point.....				100	110	2600		6500	1400	27	2800	10500	11	2200	140	50	2000	1500			1		
2 Mill Cove.....				108	34	2700		10000	2500	24	2700	5000	10	2000	160	60	2000	1400			2		
3 The Lodge.....				34	46	468		2100	200	9	1000	850	10	2000	80	40	1000	600			3		
4 North-west Cove.....				46	34	440		1500	160	8	1000	820	4	400	110	20	2000	1000			4		
5 Aspotogan.....				34	34	300		3000	500	8	1000	1050	4	400	75	60	1800	800			5		
6 Baywater.....				45	45	420		4000	800	8	800	800	2	200	60	30	800	400			6		
7 Blandford.....				135	135	225		5000	1300	30	2800	2500	7	550	50	100	1000	500			7		
8 Little and Big Tancook.....	1	10	200	5	300	2320		10100	2025	41	5000	5400	11	2000	710	1320	1200	1000			8		
9 Deep Cove.....				20	20	300		1900	210	5	600	600	2	150	50	20	400	200			9		
10 Chester.....				175	175	3000		18000	4600	20	1700	4800	20	6200	4000	200	600	2000	400			10	
11 Malone Bay and Martin's River.....	22	1820	81150	880	210	3000		15000	4000	12	1000	3200	5	1250	3000	100	400	9000	500			11	
12 Lunenburg Harbour and vicinity.....	83	7125	427500	1365				24000	10000	15	1500	3250	30	2000			600	2000	10000	1035			12
13 Petite Riviere to La Have River inclusive.....	50	3414	204840	917				28000	12000	5	500	1000	20	4000	6300		1650	8000	6000	00			13
14 Voglers Cove to Petite Riviere.....	10	660	39600	144				14000	5000	4	400	900			2000		495	5000	3000	62			14
Totals.....	166	13028	763280	2812	1217	16773	1707	3624	44695	216	22600	40670	136	23350	16735	300	5165	17800	42800	9887	118086		
Values.....															3347	60	20460	178	5136	148455	28617		

## SESSIONAL PAPER No. 22

Return showing the Kinds and Quantities of Fish in Lunenburg Co., District No. 3—Nova Scotia.

DISTRICTS.	KINDS OF FISH.													FISH PRODUCTS.		TOTAL VALUE OF ALL FISH.	Number.						
	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Halibut, lbs.	Smelts, lbs.	Alewives or Gaspereau, brls.	Clams, brls.	Beas, brls.	Flounders, lbs.	Tom cod or Frost fish, lbs.			Squid, brls.	Coarse and mixed fish brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	
<i>Lunenburg County.</i>																						\$ cts.	
1 Fox Point.....	10	600	...	60	50	280	75	130	...	...	...	10	...	55000	150	220	1800	240	500	42	34,287 80	1	
2 Mill Cove.....	10	1000	200	50	100	250	...	100	...	...	12	3	...	55000	...	120	1400	260	400	50	36,461 00	2	
3 The Lodge.....	7	200	2	200	40	70	...	20	...	...	...	2	...	3200	...	25	80	45	60	...	11,035 00	3	
4 North-west Cove.....	12	100	6	40	30	50	...	25	...	...	10	6	...	2900	...	15	60	30	50	...	16,633 70	4	
5 Aspotogan.....	13	25	...	20	15	40	...	50	...	...	...	2	...	1200	...	12	75	25	110	...	21,959 10	5	
6 Bayswater.....	5	20	...	10	8	15	...	35	...	...	...	4	...	1600	...	10	78	20	60	...	6,840 05	6	
7 Blandford.....	18	300	...	50	200	100	...	75	...	...	...	10	...	22000	400	22	310	100	335	...	12,791 00	7	
8 Little and Big Tancook.....	52	2200	...	600	910	330	210	140	2000	...	...	...	...	50000	...	57	1282	800	1210	200	41,388 50	8	
9 Deep Cove.....	8	700	1	...	20	10	...	10	...	...	...	5	...	20000	...	10	30	10	25	...	7,385 00	9	
10 Chester.....	10	8	5	3000	40	50	...	20	1000	400	110	7	...	45000	1200	170	275	200	500	30	24,231 50	10	
11 Mahone Bay and Martin's River.....	11	52000	100	18000	100	400	200	220	3800	200	25	4	...	8000	620	50	112	14000	900	20	229,115 00	11	
12 Lunenburg Harbour and vicinity.....	150	113000	60	...	32300	980	...	400	20000	...	...	...	15	...	400	...	...	65000	...	...	595,777 20	12	
13 Petite Riviere to La Have River inclusive.....	100	90000	35	...	250	...	...	160	500	6000	...	...	20	...	500	...	...	54000	...	...	399,555 00	13	
14 Voglers Cove to Petite Riviere.....	125	10500	6	...	40	...	...	15	...	4000	...	...	15	...	600	...	...	6500	...	...	49,260 00	14	
Totals.....	531	270653	415	22030	34103	2575	485	1400	27800	10600	157	53	50	263600	3870	711	5302	141230	4150	342	.....	.....	
Values.....\$	4248	1082612	4150	661	102309	5794	242	2800	2730	530	628	424	500	13180	194	2844	10004	42369	6225	171	1,494,667 85	.....	

RETURN showing the Number, Tonnage and Value of Vessels and Boats, etc., and the Quantity and Value of Fish in the County of Queen's, Province of Nova Scotia, for the year 1901.

Number.	FISHING VESSELS AND BOATS.										GILL NETS.		KINDS OF FISH.																					
	Vessels.					Boats.					Number.	Value.	Salmon, fresh, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, fresh in shell, cwt.	Number.													
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Men.																								
Queen's County.																																		
1	2	32	700	8	65	1281	33	123	2460	615	350	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1												
2	2	30	600	9	81	1230	73	182	3640	910	1620	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2												
3	2	25	500	7	44	787	44	142	2840	710	544	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3												
4	2	25	500	7	44	787	44	142	2840	710	544	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4												
5	2	25	500	7	44	787	44	142	2840	710	544	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5												
6	1	18	200	5	30	500	45	66	1320	330	1700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6												
7	1	18	200	5	30	500	45	66	1320	330	1700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7												
8	1	18	200	5	30	500	45	66	1320	330	1700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8												
9	1	18	200	5	30	500	45	66	1320	330	1700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9												
10	1	18	200	5	30	500	45	66	1320	330	1700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10												
Totals..																							3189	4000	1000	7000	483	137472	30750					
Values..																							12756	40	20	840	7245	27495	246000					

## SESSIONAL PAPER No. 22

## RETURN showing Quantities and Value of Fish, &amp;c.—Nova Scotia—Continued.

DISTRICTS.	KINDS OF FISH.											FISH PRO- DUCTS.	TOTAL VALUE OF ALL FISH.	Number.		
	Cod, dried, cwt.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, lbs.	Smelts, lbs.	Alewives or Gas- pereau, lbs.	Keels, lbs.	Flounders, lbs.	Squid, lbs.			Coarse and mixed fish, lbs.	Fish oil, galls.
<i>Queen's County.</i>																
1 Ports Hebert and Joli.....	250	38	25	750	200	5	10	100	100	100	100	100	100	100	100	1
2 Port Mouton.....	1297	103	23	50	400	300	300	300	300	300	300	300	300	300	300	2
3 White and Hunt's Point.....	640	100	33	75	600	30	30	30	30	30	30	30	30	30	30	3
4 Western Head and Black Point.....	600	90	3	35	100	50	50	50	50	50	50	50	50	50	50	4
5 Liverpool, Brooklyn and Gull Island.....	400	50	3	45	500	100	100	100	100	100	100	100	100	100	100	5
6 Eagle Head and Beach Meadows.....	150	27	11	10	3350	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	6
7 Berlin and Milton.....	90	24	10	10	3350	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	7
8 Port Medway.....	1493	432	73	250	5060	10130	15	3900	1307	32	1000	433	40	1350	330	8
9 Mill Village.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
10 Greenfield.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
Totals.....	4820	1296	164	500	596	1013	150	196	5223	320	50	1732	80	585	585	330,474 65
Values.....	19280	1296	164	500	596	1013	150	196	5223	320	50	1732	80	585	585	330,474 65

RETURN showing the Fishing Materials and the Quantities and Values of Fish, &amp;c.—Nova Scotia—Continued.

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.								
		Vessels.			Boats.			Gill Nets.			Trap Nets.			Trawls.	Herring, salted, lbs.	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, lbs.	Lobsters, preserv- ed in cans, lbs.	Lobsters, fresh in shell, cwt.		
		Number.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.										
Shelburne County.																						
1	Woods Harbour.....	5	77	3500	34	170	6500	175	20000	1900	1	1500			1100	2000	2000	217324	1250	1		
2	Shag Harbour.....	2	46	800	15	85	4000	85	17500	1400					750	1000	1000	97344	160	2		
3	Bear Point.....					25	800	380	1200	900					300				60	3		
4	Cape Island.....					50	18500	850	40	9500	10000	6	10000		550	1000	1000	142840	1650	4		
5	Barrington.....	3	50	3000	25	62	1750	66	13000	1200					200			19968	145	5		
6	Port La Tour and Baccaro.....	6	182	5500	70	415	7100	230	2385	71600	9250				5000		2000	136112	445	6		
7	Cape Negro and Island.....	3	51	1200	20	150	2750	155	1080	32500	2700	1	1500		750			23392	800	7		
8	Port Clyde.....					9	500	9	800	59					2000			31002	100	8		
9	North East Harbour to Port Sexton.....	3	60	1800	25	30	1200	35	200	6000	1000			17	85	1000	200		650	9		
10	Black Point to Round Bay.....	3	65	1800	18	55	3175	125	670	20100	3350			65	325	500	4		800	10		
11	Roseway and McNutt's Island.....	1	17	500	6	57	3600	125	540	10200	2700			60	300	702	3		650	11		
12	Gunning Cove to Birehtown.....	1	12	350	5	50	1700	100	27	8310	1385			45	225	300	3		400	12		
13	Shelburne and Sandy Point.....	9	700	37000	165	55	1450	110	630	19500	3250			80	500	660	2	19824	600	13		
14	Jordan.....						48	1480	70	12510	2085			50	250	4000	1425	1000	240	14		
15	Lockeport.....	13	800	36000	196	160	2600	330	800	27000	4800			25	250	500	10	57888	1900	15		
Totals.....		40	2059	91540	579	2021	57105	2495	11919	361220	45970	8	13000		16839	5100	7450	19	625794	9850		
Values.....															1818	67306	51	894	285	125150	78900	

## SESSIONAL PAPER No. 22

Return showing the Kinds, Quantities and Value of Fish, &amp;c.—Nova Scotia—Continued.

Districts.	KINDS OF FISH.												FISH PRODUCTS.		TOTAL VALUE OF ALL FISH.	Number.				
	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked thin, haddies, lbs.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Smelts.	Alewives or Gas-pereau, brls.	Eels, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.			Squids, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.
<i>Shelburne County.</i>																				
1 Woods Harbour.....	5000		600	75			200	700									150	8000	90,862 80	1
2 Shag Harbour.....	2000		1000	100			1000	800	300		30						375	800	35,741 30	2
3 Bear Point.....	2000		150	75			75	500									50	600	11,024 50	3
4 Cape Island.....	40000		8000	4000			1600	25000									3000	10000	237,928 00	4
5 Barrington.....	10000		13000	300			300	300	450		430			500			200	25000	53,172 60	5
6 Port La Tour and Baccaro.....	14700		1600	3100			4200	3750	200		130						2600	2100	107,693 40	6
7 Cape Negro and Island.....	29000		1100	1200			1200	2900									630	1500	130,480 40	7
8 Port Clyde.....	1500			30				1600	300		150							600	17,570 40	8
9 North East Harbour to Port Saxton.....	902	2	800	45			55	1600	300		60	2	500	300	15		332	25	17,788 10	9
10 Black Point to Round Bay.....	825	2	1000	175		9	46	1000	1500	1500	450	10	1800	3000	30	20	500	90	18,650 25	10
11 Roseway and McNutt's Island.....	700	2	700	350			90	325	200	1000	35	15	2500	3000	25	10	400	50	13,124 50	11
12 Gunning Cove to Birchtown.....	5039	3	300	165			131	100	250	100	60	6	1200	2000	20		600	40	26,316 00	12
13 Shelburne and Sandy Point.....	10300	7	4000	325	8000		1060	2600	5000	300	200	7	1000	1500	12	12	4700	750	59,902 80	13
14 Jordan.....	280	1	200	100	300	2	37	550	1000	200	25	8	1000	1000	10		250	50	10,673 50	14
15 Lockeport.....	9000	10	2000	635		47	725	10500	800	500	1000	15	1200	500	20	12	5000	1214	81,623 36	15
Totals.....	131256	27	22750	10705	8300	58	10719	50625	10430	3600	2570	63	9200	11800	132	54	18847	28319		
Values..... \$	25024	270	682	32115	498	130	21438	5063	1060	180	10280	630	460	590	528	108	5654	42478	921,551 90	



RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &c., and Quantities of Fish—Nova Scotia—*Con.*

DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.						Number.			
	Vessels.			Boats.			Gill Nets.			Trap Nets.		Trawls.		Herring, salted, bbls	Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, bbls	Lobsters, preserved in cans, lbs.		Lobsters, fresh in shell, cwt.	Number.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.										
Yarmouth County																						
1 Yarmouth .....	10	687	14500	152	63	1280	75	450	9000	2750	4	12500	250	1250	1500	680	19000	13500	50	14400	8000	1
2 Port Maitland ..	6	72	1850	28	30	1500	45	50	1000	500	3	7500	10	500	1225	375	30000	90000	...	38400	800	2
3 Sandford .....	...	...	...	...	37	1100	55	225	4500	1350	3	7500	10	500	4500	1200	14000	180000	...	...	500	3
4 Arcadia .....	...	...	...	...	34	650	40	45	1200	270	...	...	...	...	...	875	...	500	...	...	750	4
5 Pubnico .....	18	818	28900	282	50	600	85	150	3000	900	1	2500	...	...	300	200	2000	5000	...	215000	5000	5
6 Tusket Wedge ..	6	280	6250	64	85	850	110	185	3700	1000	1	1600	15	150	1875	375	6000	9000	...	200000	2000	6
7 Tusket .....	...	...	...	...	250	1500	250	1500	6600	10000	...	...	...	...	...	...	...	...	...	...	...	7
8 Eel Brook .....	...	...	...	...	45	450	90	150	3000	650	...	...	...	...	...	...	...	...	...	...	...	8
9 Salmon River ..	...	...	...	...	24	240	22	100	2000	500	...	...	...	...	975	...	...	...	...	...	...	9
10 Argyle .....	...	...	...	...	45	270	50	120	2400	720	...	...	...	...	...	150	...	...	...	150000	600	10
Totals .....	40	1857	51500	476	663	8420	822	3275	36400	18640	12	31600	286	2400	10375	4080	63000	1550	238000	50	617800	17650
Values .....	\$	...	...	...	...	...	...	...	...	...	...	...	...	...	2075	16320	630	31	35760	750	123560	141200

## SESSIONAL PAPER No. 22

Return showing the Quantity and Value of Fish, &amp;c.—Nova Scotia—Con.

DISTRICTS.	KINDS OF FISH.													FISH PRODUCT.				TOTAL VALUE OF ALL FISH.	Number.			
	Cod, dried, cwt.	Cod, tongues and sounds, bbls.	Haddock, fresh, lbs.	Haddock, dried, cwt	Smoked Finnan Haddies, lbs.	Hake, dried, cwt.	Pollock, cwt.	Hallibut, lbs.	Trout, lbs.	Smelts, lbs.	Alwives or Gasper- eau, bbls.	Kels, bbls.	Flounders, lbs.	Tom Cod or froet fish lbs.	Squid, bbls.	Coarse and Mixed Fish, bbls.	Fish Oil, galls.			Fish as bait, bbls.	Fish as manure, bbls	
<i>Yarmouth County</i>																						
1 Yarmouth.....	18000	5	6000	3800	3500	600	1700	20000	3000	20000	.....	.....	2000	.....	.....	25	100	4000	275	300	186,512 50	1
2 Port Maitland.....	10000	4	12500	.....	15000	75	1850	2500	.....	.....	.....	.....	.....	.....	.....	25	1250	1700	50	550	75,849 75	2
3 Sandford.....	2000	.....	.....	250	5000	75	1200	6000	.....	2000	.....	.....	.....	.....	.....	.....	500	200	75	275	45,068 75	3
4 Arcadia.....	600	.....	.....	150	.....	.....	125	300	.....	2500	.....	65	.....	.....	.....	.....	.....	100	.....	200	13,595 00	4
5 Pubnico.....	13850	5	.....	2675	.....	.....	2208	3000	.....	7000	.....	.....	.....	5000	50	50	500	3200	200	.....	194,751 00	5
6 Tusket Wedge.....	8000	.....	.....	1000	.....	120	700	500	.....	.....	1450	40	.....	2000	50	500	1500	100	350	.....	97,260 00	6
7 Tusket.....	.....	.....	.....	.....	.....	.....	.....	.....	7000	.....	900	100	.....	60000	.....	.....	.....	.....	100	.....	11,700 00	7
8 Bel Brook.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	540	50	.....	.....	.....	.....	.....	.....	90	.....	4,750 00	8
9 Salmon River.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	75	20	.....	1500	.....	.....	.....	.....	200	.....	2,980 00	9
10 Argyle.....	300	.....	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37,805 00	10
Totals.....	62750	14	18500	7975	23500	870	7763	32600	10000	31500	2985	275	2000	68500	150	2400	10700	1440	1325	.....	.....	.....
Values.....	\$211000	140	555	23925	1410	1958	15566	3260	1000	1575	11860	2750	100	8425	600	4800	3210	2160	662	.....	.....	\$610,282 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Quantity of Fish, &amp;c.—Nova Scotia—Con.

DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.														
	Vessels.			Boats.			Gill Nets.			Seines.			Trawls.			Weirs.		Salmon, fresh, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Lobsters, preserved in cans, lbs.	Lobster, fresh in shell, cwt.	Number.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.										
<i>Digby County.</i>																											
1 Digby .....	16	756	30350	165	95	2300	190	26	650	209	5	380	450	243	5520	4	800	300	524	20500	1800	500	.....	.....	31174	1	
2 Culloden and Bay View .....					15	610	30	45	1085	240	3	115	300	30	450	2	200	65	36	9000	.....	.....	.....	.....	340	2	
3 Gulliver's Cove .....					19	750	38	38	730	170	1	65	140	38	600	1	150	65	40	30100	.....	500	.....	.....	4800	3	
4 Rossaway and Waterford .....					9	260	18	27	620	155	5	300	530	18	265	4	900	60	36	3500	.....	5000	.....	.....	220	4	
5 Centreville and Sandy Cove .....					29	1120	58	67	1375	410	4	300	440	51	750	2	500	75	75	30000	15000	6000	56800	.....	5000	5	
6 Mink Cove .....	2	20	300	3	35	1150	31	53	1270	378	4	622	1140	25	380	.....	.....	644	644	4000	4600	7680	.....	.....	568	6	
7 Little River and Long Beach .....	1	17	800	5	20	1060	40	49	980	270	4	400	345	45	700	.....	.....	10	10	32100	.....	12000	.....	.....	5200	7	
8 Whale Cove .....	2	34	1000	14	11	420	22	20	400	125	.....	.....	.....	22	225	.....	.....	20	20	65000	.....	.....	.....	.....	330	8	
9 East Ferry .....					13	700	26	36	700	190	1	60	40	26	400	.....	.....	1556	1556	129000	.....	15000	.....	.....	390	9	
10 Tiverton and Central Grove .....	2	80	1800	25	72	3985	144	134	3650	735	2	150	240	149	3180	.....	.....	.....	.....	.....	.....	.....	.....	.....	370	10	
11 Freeport .....	10	299	8025	133	129	3827	258	182	3792	796	3	270	725	200	1035	.....	.....	448	448	175000	500	300	.....	.....	1594	11	
12 Westport .....	17	372	14900	130	160	3953	300	201	5535	1605	6	540	1238	125	1950	.....	.....	509	509	170000	.....	.....	.....	.....	1650	12	
13 Smith's Cove .....	1	12	550	3	15	180	30	10	200	60	8	240	110	.....	8	1600	.....	500	500	6000	20000	1000	.....	.....	25	13	
14 Barton and Plympton .....					8	165	16	22	440	134	6	215	90	6	110	6	525	.....	7500	.....	1000	.....	.....	.....	130	14	
15 Dory's Landing and Weymouth .....					17	355	34	28	560	150	.....	.....	.....	21	380	2	300	300	20	7700	1000	.....	.....	.....	3100	15	
16 New Edinburgh and Brighton .....					16	630	32	32	440	145	.....	.....	.....	32	600	2	125	.....	39100	300	400	.....	.....	.....	9500	16	
17 Belliveau's Cove .....					24	480	45	66	1657	767	.....	.....	.....	45	495	.....	.....	.....	347700	.....	.....	.....	.....	.....	.....	.....	17
18 Grosses Coques and Church Point .....	1	31	1000	6	48	870	52	24	720	195	.....	.....	.....	4	60	1	200	.....	125200	.....	.....	.....	.....	.....	.....	.....	18
19 Comeauville and Saulnierville .....					27	520	30	20	600	125	.....	.....	.....	.....	.....	.....	.....	.....	33000	.....	.....	22945	.....	.....	.....	.....	19
20 Meteghan and River .....	1	14	360	6	42	1035	46	39	1170	312	.....	.....	.....	4	80	.....	.....	.....	41550	.....	.....	15310	.....	.....	.....	.....	20
21 Cape St. Mary's to Beaver River .....	7	97	2750	31	12	570	19	59	1770	472	.....	.....	.....	.....	.....	.....	.....	450	62400	.....	.....	.....	.....	.....	.....	.....	21
22 Not included above .....											.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
Totals .....	60	1732	70825	481	816	24950	1466	1178	28354	7643	52	3687	5798	1084	17200	32	5080	1265	4532	1689350	42200	16700	129735	.....	67091	.....	
Values .....																		251	18128	16894	944	1894	29947	.....	536728	.....	

## SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish, &amp;c.—Nova Scotia—Con.

Number.	Districts.	KINDS OF FISH.												FISH PRODUCTS.					TOTAL VALUE OF ALL FISH.	Number.		
		Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, brls.	Smelts, lbs.	Alewives or Gas- pereau, brls.	Eels, brls.	Flounders, lbs.	Squid, brls.	Coarse and mixed fish, brls.			Fish oil, galls.	Fish as bait, brls.
Digby County.																						
1	Digby.	6850	30	30000	2785	900000	18400	6000	2032	32000	2000	2	2000	250	4	11000	516	5000	2385	3550	8800	422,681 75
2	Culloden and Bay View	430	9	60000	22	30000	3000	950	575	3000	500					1450	5	450	700	430	650	17,760 50
3	Gulliver's Cove	1705	5	30000	2363	30000	4730	2600	800	2660	20				10	350	3	450	800	600	1500	70,523 00
4	Rossway and Waterford	240	2	2500	275	500	380	170	500	500	25	3		6	13	600	20	450	250	2000	2100	15,336 50
5	Centreville and Sandy Cove	1858	8	206350	508	400000	4875	2700	642	2760	40			20		2500	35	610	5250	515	11000	115,516 75
6	Mink Cove	821		30000	1139	100000	3260	940	965	2008	40					500	10	64	1080	479	905	33,934 80
7	Little River and Long Beach	4658	5	230000	3100	45000	4149	2700	450	2025	45					2250	9	2040	1775	1060	7100	103,639 25
8	Whale Cove	385	10	80000	2000	1501	1501	2300	1407	1450	10					1000	6	500	2000	300	5000	25,521 25
9	East Ferry	1105	2	22500	343	12000	1200	460	1818	6175	60					600	165	300	900	300	500	19,997 50
10	Tiverton and Central Grove	5904	25	110000	3413	120000	10510	9000	3155	16840	60					1520	100	1100	3800	3400	10400	107,052 50
11	Freepoint	15616	42	120000	2533	120000	2437	4617	12386	26960	100					2000	50	200	3020	3500	10000	138,648 50
12	Westport	14628	13	239100	3638	3000	2788	1500	11220	89812						5000	410	250	6900	1450	10500	146,014 20
13	Smith's Cove	25		8000	6		30	70	300							1000	30	1000	100	2000	20000	17,530 50
14	Barton and Plymton	295		23500			150	300	330	100	400	18	6000	30	30	1300	14	40	290	600	700	5,876 50
15	Doty's Landing and Weymouth	3047	4	96500	10	50	50	300	130	840	10	20000	11	20000	60	1500		45	280	450	550	43,293 00
16	New Edinburgh and Brighton	217		103000	1050		300	175	287	475	120	20	5800	20	60			175	305	500	1200	87,985 50
17	Belliveau's Cove	170		129000			35		444										15	621		9,929 75
18	Groses Coques and Church Pt	424		105500			2		551							20			80	133		7,523 00
19	Comeauville and Saultnierville	360		30000					407											60		7,953 00
20	Meteghan and River	365		33000					294	1000									120	81		6,749 00
21	Cape St. Mary's to Beaver Riv.	655		64100					925	650				10					300	93		7,585 50
22	Not included above																					27,880 00
Totals.		59758	155	1822050	23205	1625000	57797	34482	39747	188415	4200	53	34800	326	128	32820	1418	13374	39260	22122	90905	
Values.		\$239032	1550	54661	69615	97500	130043	17241	70494	18842	420	530	1740	1344	1280	1641	5672	26748	9078	33183	45452	1,438,942 25

Return showing the Fishing Materials and the Quantity and Value of Fish, &amp;c.—Nova Scotia.—Continued.

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.					
		Vessels.			Boats.			Gill Nets.			Trawls.			Weirs.	Salmon, fresh, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.						
<i>Annapolis County.</i>																			
1	Margaretville.....	1	14	200	3	8	100	16	500	200	10	75	3	300	1000	200	1000	1000	1
2	Point George.....	1	10	150	3	10	200	20	500	200	20	150	2	200	800	300	1500	1500	2
3	Port Lorne.....	1	10	150	3	25	300	25	300	225	25	200	...	...	550	2000	2000	...	3
4	Hampton.....	1	10	150	3	13	175	20	550	275	22	180	...	...	325	1000	1000	...	4
5	Phinny and Young's Cove.....	1	23	500	9	20	225	25	600	300	25	200	...	...	200	1000	1000	...	5
6	Parker's Cove.....	1	16	250	3	16	175	35	600	300	35	300	...	...	150	1200	1200	...	6
7	Hillsburn.....	1	10	150	4	15	150	30	550	275	25	200	...	...	7	140	700	700	7
8	Litchfield and Delapre Cove.....	1	10	150	4	15	150	30	550	275	25	200	...	...	150	1200	1200	...	8
9	Victoria Beach.....	1	40	600	10	30	500	35	10	200	100	50	400	...	150	800	800	...	9
10	Thorne's Cove to Ferry.....	1	64	900	10	6	100	10	200	100	20	150	...	...	10	...	...	...	10
11	Clementport.....	1	16	300	5	10	200	15	100	350	25	200	...	...	10	...	...	...	11
12	Annapolis to County line.....	1	16	300	5	10	200	15	100	350	25	200	...	...	10	...	...	...	12
13	*Lequille & Round Hill R's & inland lakes.....	1	16	300	5	10	200	15	100	350	25	200	...	...	10	...	...	...	13
	Totals .....	8	193	3050	47	178	2425	261	5300	2670	282	2255	19	2100	3200	2015	9200	7000	
	Values.....														640	8060	92	140	

\* Hook and line fishing.

## SESSIONAL PAPER No. 22

RETURN showing the quantity and Value of Fish, &amp;c.—Nova Scotia.—Continued.

DISTRICTS.	KINDS OF FISH.												FISH PRODUCTS.			TOTAL VALUE OF ALL FISH.	Number.		
	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sunda, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.	Trout, lbs.	Shad, brls.	Alwives or gas- pereau, brls.	Keels, brls.	Flounders, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.			Fish as bait, brls.	Fish as manure, lbs.
<i>Annapolis County.</i>																			
1 Margaretville.....	50	400	2	2000	80	220	100	200	.....	.....	.....	.....	.....	.....	200	20	50	4,380 00	1
2 Point George.....	60	350	2	1500	100	300	114	200	.....	.....	.....	.....	.....	.....	200	30	60	4,882 00	2
3 Port Lorne.....	70	400	3	1000	200	175	100	225	.....	.....	.....	.....	.....	.....	175	30	60	6,061 25	3
4 Hampton.....	50	500	3	800	300	300	120	300	.....	.....	.....	.....	.....	.....	200	40	60	6,149 00	4
5 Phinny and Young's Cove.....	60	350	2	1000	400	900	300	400	.....	.....	.....	.....	.....	.....	300	50	70	7,115 00	5
6 Parker's Cove.....	207	600	4	900	900	800	500	600	.....	.....	.....	.....	.....	.....	500	70	60	10,914 00	6
7 Hillsburn.....	150	500	3	700	700	1200	590	100	.....	.....	.....	.....	.....	.....	400	60	50	9,303 00	7
8 Litchfield and Delaps Cove.....	125	500	2	1000	700	3000	800	100	.....	.....	.....	.....	.....	.....	500	50	75	13,370 50	8
9 Victoria Beach.....	130	3500	10	3000	2000	2500	3000	300	.....	.....	.....	.....	.....	.....	2000	100	75	29,742 50	9
10 Thorne's Cove to Ferry.....	.....	400	3	900	900	1200	800	40	.....	.....	.....	.....	.....	.....	600	50	60	7,822 00	10
11 Clementsport.....	70	.....	1	600	200	1400	900	50	.....	1000	50	.....	1000	100	.....	.....	.....	4,748 00	11
12 Annapolis to County line.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2000	.....	.....	26	2000	.....	.....	.....	980 00	12
13 Lequille and Round Hill R's & inland lakes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	4,564 00	13
Totals.....	895	7570	35	13400	6480	11995	7234	2515	3000	50	26	5	51000	2100	5075	500	610	.....	.....
Values.....	7160	30280	350	402	19440	26989	3617	5030	300	500	104	50	50	4200	1522	750	805	109,881 25	.....

RETURN showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of Fish, &c.—Nova Scotia.—*Con.*

Number.	DISTRICTS.				FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.						Number.	
	Vessels.		Boats.		Gill Nets.		Seines.		Trawls.		Weirs.		Salmon, fresh, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Lobsters, fresh in shell, cwt.						
	Number.	Value.	Men.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.							Value.					
<i>King's County.</i>																								
1	Avonport and vicinity				12	175	12	12	1600	650					1300	100	90000	300	7500	60	2			
2	Morden				6	90	12	10	300	100		300	300	3	36	8	1200	8000	100	90000	40	7		
3	Starr's Point Flats				4	60	13					700	500			3	250	6000	100	90000	2000	3		
4	Kingsport				3	35	3	3	70	12		600	150			1	75	13000	400	124000	2000	9		
5	Medford											1000	300					1500	1500	1500	2500	20		
6	Blomidon				1	19	200	2	3	30	30	1	75	25			50	1500	1500	1500	40	6		
7	Scotts Bay							12	365	30	30	4300	220		6	90	4	600	6000	100	90000	2000	8	
8	Baxter's Harbour							17	255	34	34	1020	340		3	36	6	900	6000	100	90000	2000	3	
9	Hall's Harbour				1	14	100	3	16	300	32	20	700	240		5	1000	350	16	200	1500	2500	20	
10	Chipman Brook							9	150	18	9	270	75		1	200	100	4000	100	30000	1500	2500	20	
11	Canada Creek				1	10	100	3	6	100	12	6	180	60		3	300	300	150	125000	6000	2000	25	
12	Harbourville				1	13	100	3	6	60	12	14	140	75		4	240	120	7500	150	45000	7000	1000	12
13	Ogilvie's Wharf							4	60	8		6	360	60				2000	150	35000	7000	1000	50	
	Totals				4	56	500	11	97	1690	189	147	8970	1822	36	11890	4865	43300	1201	556100	18300	18600	248	
	Values																	8460	4804	5561	366	2232	1984	

## SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish, &amp;c.—Nova Scotia—Continued.

DISTRICTS.	KINDS OF FISH.										FISH PRODUCTS.			TOTAL VALUE OF ALL FISH.	Number.
	Cod, dried, cwt.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, brls.	Alwives or Gaspe- reau, brls.	Bass, lbs.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	
<i>King's County.</i>															
1 Avonport and vicinity	125	7500	25		100	1000	1200	1	582	600	1000	10	220	1200	2,708 00
2 Morden	4							55			20		2	20	8,389 00
3 Starr's Point Flats	10							10	5	50	20			20	619 00
4 Kingsport	45							7							225 00
5 Medford	50	2500			12			5						100	324 00
6 Blomidon	50	11000	35		30	500		5					25	25	700 00
7 Scott's Bay	200	3000	45	20	200	500		12		100	500	10	150	400	3,635 00
8 Baxter's Harbour	150	85000	25	10	400	600		5		200	1000	75	350	200	6,941 50
9 Hall's Harbour	75	2500	20	12	750	500				1200	2000	100	150	500	13,202 50
10 Chipman Brook	150	1800	10	10	100	500		6		800	2000	200	100	200	8,482 00
11 Canada Creek	150	1000	25		25						50		30	50	9,356 50
12 Harbourville	85	2000	15		50								80		2,335 00
13 Ogilvie's Wharf															2,115 00
Totals	1094	116300	200	52	1767	4100	1200	106	587	3050	7790	395	1207	3115	59,032 50
Values	4376	3489	600	117	3534	410	120	1060	2348	305	15580	118	1811	1567	



## RECAPITULATION.

Of the Yield and Value of the Fisheries in District No. 3, Province of Nova Scotia, for the Year 1901.

Kinds of Fish.	Quantity.	Rate.		Value.		Total Value.
		\$	cts.	\$	cts.	
Salmon, fresh .....	Lbs. 103,735	0	20	20,747	00	21,156 00
" smoked .....	" 2,045	0	20	409	00	
Herring, salted .....	Brls. 37,021	4	00	148,084	00	172,930 50
" fresh .....	Lbs. 2,344,550	0	01	23,445	50	
" smoked .....	" 70,060	0	02	1,401	00	203,481 00
Mackerel, fresh .....	" 389,550	0	12	46,746	00	
" salted .....	Brls. 10,449	15	00	156,735	00	1,341,897 40
Lobsters, canned .....	Lbs. 1,628,887	0	20	325,777	40	
" fresh in shell .....	Cwt. 127,015	8	00	1,016,120	00	2,118,064 00
Cod, dried .....	" 527,901	4	00	2,111,604	00	
" tongues and sounds .....	Brls. 646	10	00	6,460	00	409,158 90
Haddock, fresh .....	Lbs. 2,015,030	0	03	60,450	90	
" dried .....	Cwt. 83,100	3	00	249,300	00	186,296 50
" smoked (finnan haddies) .....	Lbs. 1,656,800	0	06	99,408	00	
Hake, dried .....	Cwt. 73,420	2	25	165,195	00	128,362 00
" sounds .....	Lbs. 42,201	0	50	21,100	50	
Pollock .....	Cwt. 64,181	2	00			3,913 00
Halibut .....	Lbs. 309,000	0	10			
Trout .....	" 39,130	0	10			2,240 00
Shad .....	Brls. 224	10	00			
Smelts .....	Lbs. 84,400	0	05			31,792 00
Alewives .....	Brls. 7,948	4	00			
Basas (sea) .....	Lbs. 3,060	0	10			5,530 00
Eels .....	Brls. 553	10	00			
Flounders .....	Lbs. 309,620	0	05			15,481 00
Tom Cod .....	" 84,170	0	05			
Squid .....	Brls. 2,844	4	00			62,120 00
Coarse and mixed fish .....	" 31,060	2	00			
Clams (shelled) .....	" 453	8	00			62,537 10
Fish oil .....	Galls. 208,457	0	30			
Fish as bait .....	Brls. 58,128	1	50			48,148 50
Fish as manure .....	" 96,297	0	50			
Total for 1901 .....						4,954,932 40
" 1900 .....						4,625,042 60
Increase .....						329,889 80

SESSIONAL PAPER No. 22

## RECAPITULATION.

Or the Value of Fishing Vessels, Nets, &c., in District No. 3, Nova Scotia, for the Year 1901.

Material.	Value.	Total.
	\$ cts.	\$ cts.
334 fishing vessels (19,031 tons) .....	972,705 00	
5,455 fishing boats .....	117,867 00	
21,674 gill-nets (604,620 fathoms) .....	127,635 00	
313 seines (38,997 fathoms) .....	52,773 00	
159 trap-nets .....	72,000 00	
3,159 trawls .....	58,082 00	
90 weirs .....	12,895 00	
18 smelts-nets .....	502 00	
21,783 hand lines .....	14,396 00	
		1,428,855 00
68 lobster canneries .....	69,000 00	
217,434 " traps .....	186,473 00	
		255,473 00
143 freezers and ice-houses .....	24,690 00	
3,515 smoke and fish-houses .....	91,669 00	
573 piers and fishing wharfs .....	118,705 00	
83 fishing tugs or smacks .....	54,775 00	
		289,839 00
Total .....		1,974,167 00

Number of persons employed in the fisheries of the same district, 1901 :

Men in fishing vessels .....	4,435
" " boats .....	7,356
Hands in lobster canneries .....	1,711
Total .....	13,502

## RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats, nets and other Fishing Materials, &c., used in the whole Province of Nova Scotia for the Year 1901.

Fishing Districts.			Fishing Vessels and Boats.						Fishing Gear or Materials.											
Name.			Vessels.			Boats.			Gill Nets.			Seinees.			Trap Nets.			Trawls.		
			Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	
District No. 1—																				
1	Richmond.	52	2146	22065	416	1282	22891	2104	12222	230070	60874	3	240	250	1197	6805	1	1197	6805	1
2	Cape Breton.	23	421	8655	104	472	10614	928	2766	62128	18707	1	100	500	456	3072	2	456	3072	2
3	Victoria.	3	42	800	14	614	8370	989	1456	37237	11693	1	100	500	205	1210	3	205	1210	3
4	Inverness.	23	304	5660	103	641	13766	1332	1354	36014	14147	2	450	300	422	2138	4	422	2138	4
District No. 2—																				
5	Cumberland.					236	4525	398	524	15435	2969					72	5	8	72	5
6	Colchester.					169	2591	287	70	18424	4350					220	6	8	220	6
7	Pictou.					334	7935	360	335	12310	5777					132	7	29	132	7
8	Antigonish.	1	10	100	3	249	3441	293	763	16286	3977				37	4155	186	941	8	186
9	Guysborough.	41	890	22475	224	1928	45862	1912	10576	469641	119844	38	3415	5178	52	15940	1578	10445	9	1578
10	Halifax.	49	1257	22725	306	2131	33040	2432	10281	256680	30873	338	36245	62236	32	3300	654	3142	10	654
11	Hants.	1	18	300	2	53	1065	66	99	6335	1302									11
District No. 3—																				
12	Lunenburg.	166	13029	753290	2812	1217	15773	1707	3624	143100	44695	216	22500	40670	136	28350	1130	33900	12	1130
13	Queen's.	7	105	2000	29	463	7504	416	1215	21276	6195	6	600	1100	1	250	8	3013	8	3013
14	Shelburne.	49	2069	91540	579	2021	57105	2495	11919	361220	45970	2	290	300	8	13000	342	193514	14	13000
15	Yarmouth.	40	1857	51500	476	663	8420	822	3275	36400	18640	1	50	50	12	31600	285	240015	15	36400
16	Digby.	60	1732	70625	481	816	24950	1466	1178	28354	7643	52	3657	5788	2	3800	1084	1730016	16	1084
17	Annapolis.	8	193	3050	47	178	2425	261	316	5300	2670						282	225517	17	2670
18	Kings.	4	56	500	11	97	1690	189	147	8970	1822	36	11890	4895			28	36218	18	8970
Totals.		627	24119	1055515	5607	13564	271907	18367	62220	1762340	402248	695	79447	121296	291	95655	7902	86259		7902

## SESSIONAL PAPER No. 22

RECAPITULATION—Continued.

Showing the Number, the Quantity and Value of Fishing Materials, &c.—Continued.

FISHING DISTRICTS.		FISHING GEAR OR MATERIALS.						LOBSTER PLANT.				OTHER FIXTURES USED IN FISHING.							
		Weirs.		Smelt Nets		Hand Lines.		Canneries.		Traps.		No. of hands employed.		Smoke and Fishhouses.		Piers and Wharves.		Tugs Steamers and Smacks.	
Number.	COUNTIES.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
<i>District No. 1—</i>																			
1	Richmond	21	605	5615	3513	12	8300	72895	19338	197	1500	862	23665	157	10175	24	2435	1	
2	Cape Breton	50	67	2409	1585	18	20060	38270	18895	445	10	2275	179	4293	125	8518	17	6590	2
3	Victoria	3	12	1750	1454	17	3840	13983	8093	149	8	2475	129	6821	31	5775	5	210	3
4	Inverness	31	300	2949	1923	20	10500	41100	22005	396	11	4030	233	7400	68	42215	9	445	4
<i>District No. 2—</i>																			
5	Cumberland	6	230	1685	92	38	24860	47250	30944	359			19	1213	7	1500			5
6	Colchester	22	4500	7	140	35	3	1200	4400	2850	25	9	800	30	1075				6
7	Pictou			50	50	27	28500	49480	27453	359	18	307	1	20	1	20			7
8	Antigonish			286	104	6	6500	19240	11550	138	3	2150	118	1123					8
9	Guysborough			3993	2849	28	26784	117600	78550	440	28	24650	607	30000	211	30890			9
10	Halifax	2	50	4061	1345	21	16225	80630	34355	336	5	815	826	25361	586	17065			10
11	Hants	4	310	40	10														11
<i>District No. 3—</i>																			
12	Lunenburg			3380	1810	6	2100	15220	7620	425	3	650	2151	24050	212	28400	15	1400	12
13	Queen's			878	449	7	1700	13231	7695	339	21	6370	247	5352	6	1400	7	300	13
14	Shelburne			6271	5716	25	16900	109200	94525	172	17	5350	410	27140	167	23910	19	7960	14
15	Yarmouth	4	740	3640	1870	22	34200	37200	37200	365	12	5900	94	80500	20	8250	24	84125	15
16	Digby	32	6080	6812	3749	8	15100	35111	33111	1326	75	5735	376	21242	108	56745	18	11000	16
17	Annapolis	19	2100	347	347			4525	3375	59	2	200	142	2275					17
18	Kings	35	4975	455	455			947	947	25	13	465	95	3560					18
Totals		153	18235	43049	27338	258	218909	702212	440516	3555	236	63702	6519	192730	1757	234863	163	86406	

RECAPITULATION—Continued.

RETURN showing the Kinds and Quantities of Fish and Fish Products in the whole Province of Nova Scotia, &c.—Continued.

Number.	COUNTIES.	KINDS OF FISH.																			
		Salmon:				Herring.				Mackerel.		Lobsters.		Cod.		Haddock.				Hake.	
		Frsh.	Preserved in cans.	Smoked.	Saltd.	Frsh.	Smoked.	Frsh.	Saltd.	Preserved in cans.	Frsh in shell.	Dried.	Tongues and rounds.	Frsh.	Dried.	Smoked human bladies.	Dried.	Sounds.	Number.		
District No. 1.																					
1	Richmond . . . . .	9950	540	+12	10067	166450		143250	8261	324284	902	25383	87	210700	7896	91400	573	252	1		
2	Cape Breton. . . . .	21444		+12	4086	24350		19270	1394	430720	959	15754	33	4550	1578		63		2		
3	Victoria . . . . .	51576	2640	+63	714	15650		14479	1505	122560	11	10305		8760	2050		15		3		
4	Inverness . . . . .	63253	2183		2618	702100		5500	897	240868	1441	16041	25	8000	3187		2900	439	4		
District No. 2.																					
5	Cumberland . . . . .	12600		1300	470	100000	61500	6400	2	488352	40	800		3200	640	900	100		5		
6	Colchester . . . . .	67284			17	4000	5000			39120	110	175		2500	25		15		6		
7	Pictou . . . . .	54100				117000		6200		470080		139		500			158	200	7		
8	Antigonish . . . . .	48450			1010	332200		27600	395	136128		660		8100	161		1346	2900	8		
9	Guysborough . . . . .	120253	200	1700	5631	1940750		1440073	3621	672240	3168	37718	21	2290658	30163	340000	3215	2774	9		
10	Halifax . . . . .	14929		2395	6156	26600	5800	87900	21385	440784	12842	21449	80	126358	2643	4000	2989	1232	10		
11	Hants . . . . .	4640			5	19000						78		5					11		
District No. 3.																					
12	Lunenburg . . . . .	16735		300	5165	17800		42800	9887	118086	531	270653	415	22030	34103		2875	485	12		
13	Queens . . . . .	19780		1745	3189	4000	1000	7000	483	137472	30750	4820		432			73		13		
14	Shelburne . . . . .	9090			16839	5100		7450	19	625794	9850	131256	27	22750	10705	8300	58		14		
15	Yarmouth . . . . .	10375			4080	63000	1550	298000	50	617800	17650	52750	14	18500	7975	23500	870	15	15		
16	Digby . . . . .	1255			4532	1689350	42200	15700		67091	59758	155		1822050	23205	1625000	57797	34482	16		
17	Annapolis . . . . .	3200			2015	9200	7000			129735	895	7570	35	13400	6490		11995	7234	17		
18	Kings . . . . .	43300			1201	568100	18300	18000			248	1094		116300	200		52		18		
Totals . . . . .		572214	5563	7440	67735	5782860	698850	2146222	47909	5003023	146488	556603	892	4087956	130848	2103100	84794	41898			

† Barrels, salted, total 87.

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## RECAPITULATION—Concluded.

RETURN showing the Kinds and Quantities of Fish and Fish Products in the whole Province of Nova Scotia, &amp;c.—Concluded.

COUNTIES.	KINDS OF FISH—Con.																			TOTAL VALUE.	Number.
	Pollock.	Halibut.	Trout.	Shad.	Smelts.	Alewakes or gaspereaux.	Bas.	Eels.	Clams.	Oysters.	Flounders.	Tom cod or frost fish.	Squid.	Coarse and mixed fish.	Fish oil.	Fish as bait.	Fish as manure.	Seal skins.			
District No. 1.																					
1	Richmond.....	3981	139450	4157	.....	61600	1707	.....	852	.....	.....	993800	48900	1200	5008	13776	4656	.....	.....	513,584 05	1
2	Cape Breton.....	375	29280	3300	14	25200	243	.....	169	.....	8	2400	3425	424	98	7312	3117	.....	.....	220,561 05	2
3	Victoria.....	424	18825	1150	.....	4350	46	.....	64	.....	75	.....	7000	1185	703	7381	4949	335	.....	124,105 08	3
4	Inverness.....	1882	12300	3480	.....	7580	355	.....	159	.....	250	.....	.....	.....	.....	.....	.....	.....	46	207,121 45	4
District No. 2.																					
5	Cumberland.....	200	2700	2650	410	187200	925	1500	25	.....	894	4500	23300	680	445	65	5844	1625	.....	158,792 00	5
6	Colchester.....	8	2500	11000	253	7784	110	9850	450	210	.....	.....	.....	.....	.....	160	25	130	.....	29,974 00	6
7	Pictou.....	.....	.....	.....	.....	12900	25	.....	100	30	62	.....	300	250	10	35	1560	1440	.....	116,745 00	7
8	Antigonish.....	615	25	670	.....	8290	29	4300	66	.....	185	17936	.....	85	62	387	1412	920	.....	69,009 00	8
9	Guysborough.....	13003	229353	11314	.....	32508	1035	325	.....	.....	.....	5300	14100	12744	814	58600	8649	3015	3	928,668 00	9
10	Halifax.....	2897	59616	9450	.....	25300	489	.....	107	465	6	110700	40800	2114	1023	17560	2028	1590	17	661,426 00	10
11	Hants.....	66	.....	6450	86	2000	227	300	.....	120	.....	3000	2000	.....	.....	.....	.....	.....	.....	4,630 00	11
District No. 3.																					
12	Lunenburg.....	1400	27300	.....	.....	10600	157	.....	50	53	.....	263600	3870	711	5302	141290	4150	342	.....	1,484,667 85	12
13	Queens.....	260	5960	10130	15	3900	1307	.....	32	.....	.....	1000	.....	433	40	1950	390	.....	.....	330,474 05	13
14	Shelburne.....	10719	50625	10600	.....	3600	2570	.....	63	.....	.....	9200	11800	132	54	18847	28319	.....	.....	921,651 90	14
15	Yarmouth.....	7783	32500	10000	.....	31500	2965	.....	275	.....	.....	2000	68500	150	2400	10700	1440	1325	.....	610,282 00	15
16	Digby.....	30747	188415	4200	53	34800	336	.....	128	400	.....	32820	.....	1418	13374	30250	22122	90405	.....	1,438,942 25	16
17	Annapolis.....	2515	3000	3000	50	.....	26	3450	5	.....	.....	1000	.....	.....	2100	5075	500	610	.....	108,981 25	17
18	Kings.....	1767	4100	1200	106	.....	587	.....	.....	.....	.....	.....	.....	.....	7790	336	1207	3115	.....	59,032 50	18
Totals.....		87632	803049	97351	987	459112	13139	19000	2420	1518	1690	1446956	223995	22423	39236	326280	91209	105352	66	7,989,548 03	

## RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of Nova Scotia  
for the Year 1901.

Kinds of Fish.	Quantity.	Rate.	Value.		Total Value.
			\$ cts.	\$ cts.	
Salmon, fresh..... Lbs.	572,214	0 20	114,442	60	118,070 05
" preserved..... Cans.	5,663	0 15	834	45	
" smoked..... Lbs.	7,440	0 20	1,488	00	
" salted..... Brls.	87	15 00	1,305	00	
Herring "..... "	67,795	4 00	271,180	00	343,025 50
" fresh..... Lbs.	5,792,850	0 01	57,928	50	
" smoked..... "	695,850	0 02	13,917	00	
Mackerel, salted..... Brls.	47,909	15 00	718,635	00	975,460 88
" fresh..... Lbs.	2,140,222	0 12	256,825	88	
Lotsters, preserved in cans..... "	5,003,023	0 20	1,000,603	80	2,114,088 80
" fresh, in shell..... Cwt.	146,488	5 00	1,113,485	00	
Cod, dried..... "	656,603	4 00	2,626,412	00	2,635,332 00
" tongues..... Brls.	892	10 00	8,920	00	
Haddock, dried..... Cwt.	130,848	3 00	392,544	00	659,368 20
" fresh..... Lbs.	4,687,956	0 03	140,638	20	
" smoked (finnan haddies)..... "	2,103,100	0 06	126,186	00	
Hake, dried..... Cwt.	84,794	2 25	190,787	25	215,736 35
" sounds..... Lbs.	49,898	0 50	24,949	00	
Pollock..... Cwt.	87,632	2 00			175,264 00
Halibut..... Lbs.	803,049	0 10			80,304 50
Trout..... "	97,351	0 10			9,734 70
Smelts..... "	459,112	0 05			22,955 50
Shad..... Brls.	987	10 00			9,870 00
Alewives..... "	13,139	4 00			52,556 00
Eels..... "	2,420	10 00			24,200 00
Bass..... Lbs.	19,000	0 10			1,900 00
Flounders..... "	1,446,956	0 05			72,348 00
Tom cod or frost fish..... "	223,995	0 05			11,199 75
Squid..... Brls.	22,423	4 00			89,692 00
Oysters..... "	1,690	4 00			6,760 00
Clams..... "	1,518				5,754 00
Coarse and mixed fish..... "	39,236	2 00			78,472 00
Fish oil..... Galls.	326,280	0 30			97,883 90
" as bait..... Brls.	91,209	1 50			136,813 50
" manure..... "	105,352	0 50			52,676 00
Seal skins..... No.	66	1 25			82 50
Total in 1901.....					7,989,548 03
" 1900.....					7,809,152 53
Increase over last year.....					180,395 50

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## RECAPITULATION

Of the Fishing Vessels, Boats, Nets and other Materials used in the Fishing Industry in the **whole** Province of **Nova Scotia** for the Year 1901.

Articles.	Value.	Total.
	\$ cts.	\$ cts.
527 fishing vessels (24,119 tons) .....	1,055,515 00	
13,564 " boats .....	271,967 00	
62,220 gill-nets (1,762,480 fathoms) .....	402,248 00	
695 seines (79,447 fathoms) .....	121,296 00	
291 trap-nets .....	95,655 00	
153 weirs .....	18,235 00	
7,902 trawls .....	86,259 00	
43,049 hand-lines .....	27,338 00	
186 smelt nets .....	3,696 00	
		2,082,209 00
258 lobster canneries .....	218,909 00	
702,292 " traps .....	440,516 00	
		659,425 00
236 freezers and ice-houses .....	63,702 00	
6,519 smoke and fish-houses .....	192,730 00	
1,757 fishing piers and wharfs .....	234,863 00	
163 " smacks and tugs .....	86,405 00	
		577,700 00
Total capital invested in fisheries .....		3,319,334 00

## Statement of Men employed in the Fishing Industry of Nova Scotia, 1901.

Number of men in fishing vessels .....	5,607
" " boats .....	18,367
" persons in lobster canneries .....	5,555
Total .....	29,529



## APPENDIX No. 4.

# BRITISH COLUMBIA.

### ANNUAL REPORT ON THE FISHERIES OF BRITISH COLUMBIA FOR THE YEAR 1901, BY INSPECTOR C. B. SWORD.

NEW WESTMINSTER, B.C., January 22, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to inclose statistics of the fisheries of British Columbia for the year 1901, also returns of the salmon packs of the various canneries, and report of the fur-sealing industry. These returns show a very gratifying increase in practically all lines, though the greater part of this increase must of course be credited to the exceptionally large pack of salmon.

#### SALMON.

This year's pack has been the largest known in the province, amounting to 1,247,215 cases against 1,026,545 cases in 1897, the next largest year. 1,154,717 cases were sockeye salmon (*O. nerka*), exceeding the total pack of 1897 of all kinds of salmon. On Fraser river the pack of sockeyes in 1901 was 974,911 cases as against 879,115 cases of all kinds in 1897. The pack of all kinds of salmon was as follows:—

On Fraser River.		Cases.
Sockeye ( <i>O. nerka</i> )	.....	984,911
Spring ( <i>O. tschawytscha</i> )	.....	885
Humpback ( <i>O. gorbuscha</i> )	.....	3,992
Cohoos ( <i>O. kisutch</i> )	.....	17,043
Dog ( <i>Q'ualo</i> ) ( <i>O. keta</i> )	.....	2,082
Total	.....	998,913
On Puget Sound.		Cases.
Sockeye	.....	1,106,643
Spring	.....	3,239
Humpback	.....	41,865
Cohoos	.....	152,281
Dog ( <i>Q'ualo</i> )	.....	58,748
Total	.....	1,362,776

From this it will be seen that the Puget Sound pack of sockeyes, (practically all from fish on their way to their spawning grounds on Fraser river,) exceeds by 131,732

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cases the provincial pack of these fish on Fraser river, and that the total pack of Fraser river sockeye for this year reaches a total of 2,081,554 cases.

Large as this amount is, representing a total of 30,000,000 fish, it could have been largely increased, possibly doubled, had the canneries had capacity enough to have handled all the fish available during the run. On Fraser river, the canners placed 200 as the maximum number of fish they would guarantee to take from each boat and for 12 days, from 6th to 17th August this limit was enforced. The fishermen could consequently during this period fish only for a short time each day. During the height of the run they dare not put more than a small length of their net in the water. In some cases nets were sunk and lost from the weight of fish.

Owing to the large pack of sockeye there was not such a large pack of the less marketable varieties put up as in 1900. It is to be hoped, however, that with the gradual development of markets for these varieties our canners may find it to their interest to utilize these fish every year, as their runs take place mainly after that of the sockeye, and the canneries could thus be kept running to the advantage of both packers and fishermen for a greater portion of each year.

While the pack of the Fraser river has been so large the northern canneries have not come up to their pack of 1900; 237,294 cases being the amount of the 1901 pack against 258,068 cases in 1900.

These packs were made up as under:—

	1900.	1901.
Sockeyes.....	235,373 cases	174,688 cases
Cohoos.....	9,504 "	10,623 "
Spring.....	6,139 "	26,378 "
Humpbacks.....	7,052 "	25,605 "

Especially, in view of the large pack of Fraser river sockeye, the northern canners this year can scarcely have had so profitable a season as in 1900.

The returns of salmon salted in barrels show a very large increase, being 7,931 barrels, against 4,950 in 1900, 3,450 in 1899 and 2,600 in 1898. The total pack for the province, 1,247,212 cases for 1901, is made up as follows:—

	Cases.
Sockeyes .....	1,154,717
Cohoos.....	28,476
Spring .....	29,221
Humpbacks.....	31,392
Dog.....	3,406

Dry salted salmon show an increase of 6,476,207 lbs., against 5,700,000 lbs. in 1900. This item represents almost wholly the dog salmon or q'ualo put up for the Japanese market, and the smallness of the increase is to some extent at least to be accounted for by the packers having had a difficulty in securing a sufficient supply of salt. The market for these fish, too, is largely affected by the Japanese local catch, and the price obtainable for the product has been somewhat fluctuating.

*Fresh Salmon.*—There is an increase of 400,000 lbs. in this item, representing the increased business done by the cold storage plants.

During the past season, so far as the Fraser river district is concerned, there has been a most gratifying improvement in the observance of the weekly close season. While the largeness of the run during a great part of the season may have had much to do with this, the signalling, by means of firing cannon and maroon rockets at different points to mark the advent of six o'clock on Sunday evenings, has also been of great benefit. Offenders are deprived of the excuse that they had not known the hour. The fishermen greatly appreciate the system, and show their appreciation in the most satisfactory way by their readiness to assist the officers in preventing nets being thrown out before the signal has been given.

2-3 EDWARD VII., A. 1903

I will have the same system installed in the northern waters during the coming season, but the officers there complain very much of the difficulty they have in enforcing the observance of the weekly close time from lack of means of getting about other than a row-boat. Both on the Skeena river and at Rivers Inlet steamers for the season have now become an absolute necessity.

## STURGEON.

This fishery shows a very small return, 65,000 lbs., against 105,000 in 1900, 278,650 lbs. in 1899, 750,000 lbs. in 1898, and 1,137,696 lbs. in 1897. It would not appear that we are ever likely again to see this fishery of any commercial importance. The cold storage companies take all they can get, but the supply, especially of the larger fish, is very limited. Several illegal lines have been seized and destroyed, but the scarcity of the fish makes the employment of this method no longer so profitable as it once was, and comparatively few of these are now used.

There is no lack of small sturgeon in the river, so that the only reason for the failure of this fishery would seem to be the number of years that this fish takes to obtain its full growth. Until a market was found abroad for them, the local consumption was too small to affect their numbers, and many were taken of a size rarely now met with.

From 164 net licenses for sturgeon fishing issued in 1898 the number of such licenses has steadily decreased, having been 88 in 1899, 23 in 1900, 22 in 1901, and this year to date there have only been 5 taken out.

## HALIBUT.

This fishery shows a further increase, 5,701,000 lbs. as against 4,261,000 lbs. in 1900, and there is every reason to expect that this increase will continue, the supply being large enough to keep up with the demand for some time, although in the case of this fish, as in the case of the sturgeon, there is not the same security against overfishing as we have in the case of salmon, herring and other fish which can only be taken when they come to the coast to spawn. Halibut and sturgeon, on the other hand, are liable to capture all the year round and at every stage of their life.

The manager of the New England Co. expects that for the present season 1901-1902 the catch of his own company alone will exceed the total Atlantic catch.

Considering the steady increase in this fishery, and its importance, it is very desirable that there should be no further delay in defining exactly how far Canada's exclusive rights, in the waters in which these fish are taken, extend, and in providing the necessary means to protect these rights against United States poachers. It is to be hoped that the new cruiser now being built in Vancouver may be of effective service in this direction.

## HERRING.

There is a small increase in the returns for this fishery. So far the main market for the catch has been for bait for the halibut fishing. Some trial shipments of salted herring for the Australian market have been made this year, and it is to be hoped that the success of these will justify operations another year on a larger scale. The supply is practically unlimited and not likely to be affected by any toll that may be levied upon the annual runs.

At present there are no regulations in regard to this fishing most of which is carried on by small drag-seines drawn up on the beach. This method as at present conducted is very destructive to the immature fry that are taken in these nets. There is a difference of opinion among the fishermen, as to the possibility of the use of drift gill nets, some of them being very anxious to be allowed the use of purse seines in deep water. Regulations drawn up with proper regard to the local conditions, and the payment of a

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license fee for the registration of the nets used, would meet with the approval of practically all engaged in the industry.

## SHAD.

The catch of shad this year is estimated at 10,000 lbs. This fish is now becoming quite a common feature on the fish monger's counters and the annual take seems likely to increase. At present those caught are taken during the season of the salmon run, mainly in the sockeye nets. In the course of a few years they may be sufficiently numerous to justify the prosecution of the fishery for itself.

The various small items in the return show but a small increase over 1900, but taken as a whole the report of the fisheries of British Columbia for 1901 shows the industry to be in a very satisfactory condition.

I have the honour to be, sir,  
Your obedient servant,

C. B. SWORD,  
*Inspector of Fisheries.*

## A.—BRITISH COLUMBIA SALMON PACK, 1901.

Name of Cannery.	Location.	Sockeye, 48-lb. Cases.	Coho, 48-lb. Cases.	Spring, 48-lb. Cases.	Humpbacks, 48-lb. Cases.	Quail, 48-lb. Cases.	Cannery Totals.	District Totals.
Albion .....	Fraser River Dis.	22,827					22,827	
Atlas .....	"	14,700					14,700	
Anglo-American .....	"	12,830					12,830	
Alliance .....	"	11,025					11,025	
Acme .....	"	12,002					12,002	
Britannia .....	"	24,638					24,638	
Brunswick I .....	"	25,418					25,418	
" II .....	"	26,218					26,218	
Beaver .....	"	20,914	96		3,868	1,732	26,610	
British-American .....	"	16,500					16,500	
Birrell's .....	"	11,200					11,200	
Boutillier's .....	"	11,350					11,350	
Canadian Pacific .....	"	24,650					24,650	
Currie & McWilliams .....	"	32,600					32,600	
Colonial .....	"	28,200					28,200	
Celtic .....	"	15,143	4,000				19,143	
Canoe Pass .....	"	12,723					12,723	
Cleeve .....	"	22,234		500			22,734	
Dea's Island .....	"	21,562					21,562	
Delta .....	"	17,346					17,346	
Dinsmore Island .....	"	21,700	3,000				24,700	
Ewen's .....	"	29,629					29,629	
English Bay .....	"	19,315					19,315	
Federation .....	"	21,658	1,718				23,376	
Fraser River .....	"	16,891					16,891	
Fisherman's .....	"	14,275					14,275	
Gulf of Georgia .....	"	44,723					44,723	
Great Northern .....	"	14,316	2,960	385	35	350	18,046	
Greenwood .....	"	13,985	1,175				15,160	
Harlock .....	"	26,020	576		12		26,608	
Hume's .....	"	15,630					15,630	
Industrial .....	"	19,500					19,500	
Imperial .....	"	14,208					14,208	
London .....	"	18,335					18,335	
National .....	"	14,000					14,000	
Phenix .....	"	26,202					26,202	
Pacific Coast .....	"	20,000					20,000	
Provincial .....	"	16,200					16,200	
Premier .....	"	11,629					11,629	
Richmond .....	"	15,013			77		15,090	
Scottish-Canadian .....	"	48,433					48,433	
Star .....	"	19,763					19,763	
St. Mungo (2) .....	"	22,000	2,000				24,000	
Terra Nova .....	"	20,650					20,650	
Vancouver .....	"	22,000					22,000	
Wadham's .....	"	20,305					20,305	
Westminster Packing Co. ....	"	16,510					16,510	
Westham Island .....	"	13,616	1,518				15,134	
Wellington .....	"	14,925					14,925	
<b>Totals .....</b>		<b>974,911</b>	<b>17,043</b>	<b>885</b>	<b>3,992</b>	<b>2,082</b>	<b>998,913</b>	<b>998,913</b>
Wannuck .....	Rivers Inlet Dist.	9,320	419		137		9,876	
Brunswick III .....	"	10,272	110	96	228		10,706	
Rivers Inlet .....	"	7,500					7,500	
Victoria .....	"	6,621	39	147			6,807	
Wadham's .....	"	10,406	2,018	486	1,282		14,192	
Vancouver .....	"	6,861	153	36			7,050	
Good Hope .....	"	9,858	347		458		10,663	
<b>Totals .....</b>		<b>60,838</b>	<b>3,086</b>	<b>765</b>	<b>2,106</b>		<b>66,794</b>	<b>66,794</b>

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A.—BRITISH COLUMBIA SALMON PACK, 1901—*Continued.*

Name of Cannery.	Location.	Sockeye, 48-lb. Cases.	Cohoee, 48-lb. Cases.	Springs, 48-lb. Cases.	Humpbacks, 48-lb. Cases.	Qualo, 48-lb. Cases.	Cannery Totals.	District Totals.
Bella Bella.....	North Coast Dis.	2,500		1,500			4,000	
Namu.....	"	1,357	1,713	5	3,000		6,075	
Kemsquit.....	"	3,821	1,015	689			5,525	
Princess Royal.....	"	7,600					7,600	
Lowe Inlet.....	"	3,759	654		2,038		6,451	
<b>Totals</b> .....		<b>19,037</b>	<b>3,382</b>	<b>2,194</b>	<b>5,038</b>		<b>29,651</b>	<b>29,651</b>
Carlisle.....	Skeena River	5,990		1,010			7,000	
Inverness.....	"	10,500					10,500	
British-American.....	"	8,945	852	5,339	3,609		18,745	
Ladysmith.....	"	1,650	90	1,400	610		3,700	
N. Pacific.....	"	12,613	1,364	1,048	4,024		19,049	
Skeena.....	"	8,591	375	3,650	2,084		14,700	
Windsor.....	"	6,495	129	2,874	3,635		13,133	
Balmoral.....	"	6,000		1,542	1,588		9,130	
Claxton.....	"	10,140	252	574	992		11,958	
Herman's.....	"	5,000	630	4,100	500		10,230	
Standard.....	"	5,335	463	482	1,420		7,700	
<b>Totals</b> .....		<b>81,209</b>	<b>4,155</b>	<b>22,019</b>	<b>18,462</b>		<b>125,845</b>	<b>125,845</b>
Naas Harbour.....	Naas River.....	5,820		1,400			7,220	
Mill Bay.....	"	7,784					7,784	
<b>Totals</b> .....		<b>13,604</b>		<b>1,400</b>			<b>15,004</b>	<b>15,004</b>
Skidegate.....	Queen Char. Isld.	400					400	400
Alert Bay.....	Alert Bay	990		1,835	1,795		4,620	4,620
Clayoquot.....	West Coast & Isld.	3,728	810	123		1,324	5,985	5,985
<b>Totals</b> .....		<b>1,154,717</b>	<b>28,476</b>	<b>29,221</b>	<b>31,392</b>	<b>3,406</b>		<b>1,247,212</b>

2-3 EDWARD VII., A. 1903

## REPORT of Seal

Number.	Vessels.	License Number.	Master.	Tons.	CREWS.	
					White.	Indians.
1	Ainoko.....	26	A. McDougall.	75	6	16
2	Allie I. Alger.....	19	W. E. Baker ..	75	9	21
3	Annie E. Paint .....	29	R. E. McKiel ..	82	6	20
4	Arietis.....	12	W. Heater .....	86	6	20
5	Aurora.....	11	F. Cole.....	40	18	.....
6	Beatrice.....	21	A. H. Olsson ..	66	5	14
7	Borealis.....	10	Wm. Munro .....	47	21	.....
8	Carlotta G. Cox.....	6	C. E. LeBlanc ..	76	24	.....
9	Carri C. W.....	41	D. G. Macauley ..	92	8	22
10	Casco.....	20	M. Ryan.....	63	25	.....
11	C. D. Rand.....	33	J. G. Searle .....	51	6	14
12	City of San Diego .....	3	H. Blackstad ..	46	20	.....
13	Diana.....	4	A. St. Clair.....	50	6	13
14	Director.....	7	J. Anderson.....	87	24	.....
15	Dora Sieward.....	9	W. O'Leary.....	94	24	.....
16	E. B. Marvin.....	24	C. Campbell .....	96	8	26
17	Enterprise.....	2	J. W. Anderson..	69	8	19
18	Favourite.....	30	L. McLean.....	80	6	15
19	Fawn.....	40	V. Gullin.....	59	6	12
20	Florence M. Smith.....	32	R. Balcom.....	99	7	23
21	Geneva.....	17	W. D. Byers.....	92	8	18
22	Hatzic.....	31	P. Farley.....	72	6	12
23	Ida Etta.....	22	H. V. Hughes.....	69	5	12
24	Libbie.....	27	C. Hackett.....	93	7	17
25	Mary Taylor.....	5	O. Buckholz.....	43	18	.....
26	Ocean Belle.....	34	J. W. Anderson..	87	25	.....
27	Oscar and Hattie.....	37	R. A. Lavender..	81	23	.....
28	Otto.....	13	J. F. Gosse.....	86	7	20
29	Penelope.....	18	G. Heater.....	70	6	18
30	R. I. Morse.....	36	G. W. Cessford ..	30	10	.....
31	Sadie Turpel.....	28	J. Bishop.....	56	7	16
32	Saucy Lass.....	38	H. V. Brown.....	38	17	.....
33	Teresa.....	23	G. R. Ferey.....	63	6	14
34	Triumph.....	14	D. McPhee.....	98	6	26
35	Umbrina.....	1	J. Haan.....	99	8	27
36	Vera.....	8	C. A. Burns.....	60	21	.....
37	Victoria.....	15	S. H. Balcum.....	63	6	16
38	Viva.....	16	E. F. Robbins.....	92	8	15
39	Zilla May.....	25	H. Balcum.....	66	6	19
	Indian catch.....					
				2,791	443	465

## SUMMARY.

British Columbia coast catch.....	8,533
Japan.....	2,130
Vicinity of Copper Islands.....	3,397
Behring Sea catch.....	10,362
	<u>24,422</u>

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ing Catch, 1901.

Boats.	Catches.	BRITISH COLUMBIA COAST CATCH.		JAPAN COAST CATCH.		VICINITY OF COPPER ISLANDS.		BEHRING SEA.		Totals.	Branded Skins.	Number.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
2	8	41	35					161	176	413	1	1
2	10	131	143					170	250	694	1	2
2	10	77	115					312	330	834		3
2	10	181	161					312	212	866		4
6		166	166							332	2	5
2	7	138	156					75	152	521	2	6
7		16	29	18	16					79		7
2		32	88	103	240	85	265			813		8
2	11							251	334	585		9
7		7	16	130	74	62	437			726		10
2	7	146	132					339	249	866	3	11
6		171	131			466	270			1,038	6	12
2	6	163	192					162	256	773	1	13
8		41	83	90	152	276	287			899		14
8		25	66	181	50	146	216			684	2	15
2	12	98	158					205	284	745	3	16
3	9	68	114					162	230	574	4	17
2	7	86	75					144	162	467	3	18
2	6							116	188	304		19
2	11	147	205					237	403	992	4	20
3	9	56	62					113	305	536	2	21
2	6	50	60							110	2	22
2	6	29	42					91	138	300	2	23
2	8	83	74							157		24
6		7	28	145	113	44	132	20	18	507		25
7		75	94							169		26
7		80	46	481	41					657		27
2	10	143	125					444	377	1,089		28
2	9	129	314					141	378	962		29
4		43	25					63	87	218	1	30
2	8	48	109					27	172	356		31
5		103	82			256	235	10	18	704		32
2	7	48	46							94		33
2	12	126	172					395	148	841	1	34
2	13	208	189					273	261	931	3	35
6		37	32	162	134	137	113			615	1	36
2	8	46	87					215	108	456	1	37
3	7	196	137					109	141	583		38
2	9	129	97					267	171	664	2	39
										1,268		
139	226	3,379	3,886	1,310	820	1,472	1,925	4,814	5,548	24,422	47	



RETURN showing the Number, Tonnage and Value of Vessels and Boats and the quantity and value of Fishing Materials and the Kinds of Fish in the Province of British Columbia, for the year 1901.

District.	VESSELS AND BOATS.				FISHING MATERIALS.				KINDS OF FISH.						Number.				
	Vessels.		Boats.		Gill Nets.		Seines.		Salmon, canned, 48 lb. cases.	Salmon, salted, bbls.	Salmon, dry, salted, lbs.	Salmon, smoked, lbs.	Salmon, fresh, lbs.	Sturgeon, lbs.		Halibut, lbs.			
	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.									Value.		
1 Fraser River.....	59	296000	177	35329	211920	12964	529800	397350	1400	2100	3000	998913	3526	6460207	80000	1523000	55000	4998000	1
2 River's Inlet.....	8	30000	24	359	21540	1418	71800	53850	.....	.....	50	66794	130	.....	1200	10000	.....	5000	2
3 North Coast.....	5	17500	15	150	9000	800	30000	22700	2400	3600	50	29451	120	.....	800	13000	.....	20000	3
4 Skeena River.....	12	45000	36	581	34860	2550	116200	87150	400	600	150	125845	2555	.....	55000	215805	.....	60000	4
5 Naas River.....	1	2500	3	100	6000	425	20000	15000	.....	.....	50	15004	200	.....	60000	25000	.....	50000	5
6 Queen Charlotte Islands.....	.....	.....	50	500	.....	250	4000	3000	500	750	1750	400	50	16000	600	15000	.....	80000	6
7 Cape Scott to Comox.....	10	6000	30	36	4000	150	2500	1875	800	1200	375	4620	100	.....	5500	30000	.....	12000	7
8 Comox to Victoria.....	60	13000	180	80	4800	160	5750	4312	4000	6090	2000	.....	250	.....	75000	205000	10000	450000	8
9 Victoria to Cape Beale.....	7	1800	21	25	2000	75	3000	2250	1000	1500	1500	.....	300	.....	7500	25000	.....	5000	9
10 Cape Beale to Cape Scott.....	6	1200	18	25	2250	150	2750	2050	9000	1350	200	5985	700	.....	10000	5000	.....	15000	10
Totals.....	168	353000	504	4938	301370	18942	785800	589337	11400	17100	9125	1247212	7931	6476207	301000	2128805	65000	5701000	
Values..... \$	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	59856118	79310	259048	30100	212880	3250	283050	

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Return showing the Quantities and Value of Fish, &amp;c., in British Columbia—Concluded.

Number.	District.	KINDS OF FISH																	Total Value of all Fish	Number.
		Herring, fresh and salted, lbs.	Herring, smoked, lbs.	Olachans, fresh, lbs.	Olachans, salted, brls.	Olachans, smoked, lbs.	Smelt, lbs.	Trout, lbs.	Cod fish, lbs.	Skull, lbs.	Shad, lbs.	Canned clams, cases.	Mixed fish, lbs.	Hair-seal, skins.	Sea otter, skins.	Fish oil, galls.	Fish guano, tons.	Fish glue, galls.		
1	Fraser River	460000	165000	240000	300	3000	60000	150000	160000		10000		160000	500		61000	300	5000	5,621,675 08	1
2	River's Inlet	10000						300					2500	400		3500			325,086 20	2
3	North Coast	15000		120000	210	4000		500				400	15000	500		6000			159,629 80	3
4	Skeena River	5000	1000	60000	750	1500		1500				2500	20000	275		600			682,422 75	4
5	Naas River	5000	2500	400000	950	20000		1000				100	15000	750		1000			118,631 70	5
6	Queen Charlotte Islands	30000	4000						4000			100	30000	250	2	20000			22,647 50	6
7	Cape Scott to Comox	25000	1500				6500	10000	1300			25000	20000	350		6000			33,551 00	7
8	Comox to Victoria	375000	2500				35000	150000	300000			200000	8000	400		6000			120,812 50	8
9	Victoria to Cape Beale	15000	2000					5000	9000				10000	275	8	13000			10,600 00	9
10	Cape Beale to Cape Scott	20000	4000					5000	6000										48,384 25	10
Totals		960000	182500	820000	2210	28500	101500	323300	492000	4000	10000	3000	483500	4100	10	152100	300	5000	7,143,441 38	
Values		28800	18250	41000	22100	2850	5075	32330	24600	200	500	12000	24275	3075	5000	45630	9000	12500		
																				</

## RECAPITULATION

Of the Yield and Value of the Fisheries of British Columbia for the Year 1901

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, canned .....	48-lb cases	1,247,212	4 80	5,986,617	60
" salted .....	Brls.	7,931	10 00	79,310	00
" dry salted .....	Lbs.	6,476,297	0 04	259,048	28
" smoked .....	"	301,000	0 10	30,100	00
" fresh .....	"	2,128,805	0 10	212,880	50
Sturgeon .....	"	65,000	0 05	3,250	00
Halibut .....	"	5,701,000	0 05	285,050	00
Herring, fresh and salted .....	"	960,000	0 03	28,800	00
Herring, smoked .....	"	182,500	0 10	18,250	00
Oolachana, fresh .....	"	820,000	0 05	41,000	00
" salted .....	Brls.	2,210	10 00	22,100	00
" smoked .....	Lbs.	28,500	0 10	2,850	00
Smelts .....	"	101,500	0 05	5,075	00
Trout .....	"	323,300	0 10	32,330	00
Cod .....	"	492,000	0 05	24,600	00
Skill .....	"	4,000	0 05	200	00
Shad .....	"	10,000	0 05	500	00
Mixed fish .....	"	485,500	0 05	24,275	00
Hair Seals .....	Skins.	4,100	0 75	3,075	00
Fur Seals .....	"	24,422	15 00	366,330	00
Sea Otter .....	"	10	500 00	5,000	00
Fish Oil .....	Galls.	152,100	0 30	45,630	00
Fish Guano .....	Tons.	300	30 00	9,000	00
Glue .....	Galls.	5,000	2 50	12,500	00
Canned clams .....	Cases.	3,000	4 00	12,000	00
Oysters .....	Sacks.	5,000	3 00	15,000	00
Caviare .....	Lbs.	800	0 50	400	00
Fresh clams and mussels .....				11,600	00
Fresh crabs and abelonies .....				30,000	00
Shrimps and prawns .....				6,000	00
Estimate of fish not included in above .....				370,000	00
<b>Total .....</b>				<b>7,942,771</b>	<b>38</b>

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## Capital Invested in British Columbia Fisheries, 1901.

Vessels, Boats, Canneries, &c.	Number.	Value.	Total Value.
		\$ cts.	\$ cts.
<i>Fisheries—</i>			
Vessels.....	168	353,000 00	
Boats.....	4,938	301,370 00	
Scows, etc.....		19,250 00	
Gill nets—fathoms.....	785,800	589,337 00	
Seines—fathoms.....	11,400	17,100 00	
Lines, hooks, &c.....		9,125 00	
Salmon canneries.....	77	1,540,000 00	
Cold storage plants.....	7	87,500 00	
Oil factories.....	3	45,000 00	
Salteries.....	2	4,000 00	
			2,965,682 00
<i>Fur Sealing—</i>			
Value vessels engaged.....		370,500 00	
Boats, canoes, guns, spears, shells, &c.....		23,900 00	
			394,400 00
<b>Total.....</b>			<b>3,360,082 00</b>

*Employees in Fisheries—*

Fishermen and cannery employees.....	18,942
Employed on vessels.....	504
Sailors and hunters in fur sealing.....	908
<b>Total.....</b>	<b>20,354</b>

## APPENDIX No. 5.

## NORTH-WEST TERRITORIES.

## ANNUAL REPORT ON THE FISHERIES OF THE NORTH-WEST TERRITORIES, 1901, BY INSPECTOR E. W. MILLER.

QU'APPELLE, N.W.T., February 12, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to forward the following report on the fisheries of the North-west Territories for the year 1901, together with statistical return showing yield of fish, value, &c.

## QU'APPELLE DISTRICT.

Owing to the great demand for labour in more remunerative occupations than fishing a much less amount of time was devoted to the latter by the halfbreeds and Indians who form the majority of fishermen in this district. In most of the lakes therefore a smaller catch is reported though the individual takings have been large the waters being in fine condition throughout the year and no diminution in the supply of fish being reported at any point.

In the Qu'Appelle chain of lakes the catch of whitefish remains small but is increasing. One of the oldest Half-breed fishermen reports having taken more than at any time the last twelve years, during which he has fished regularly in Mission Lake. The Indians do most of their fishing through the ice in the winter, catching very large quantities of pike and pickerel with hook and line. Were they provided with proper boats and nets they could make a good fishery in the summer months, but they have only a few miserable punts which are unfit for use in deep water. The pike caught here are of good size, one taken by Guardian Leader weighed 23 pounds and a great many exceed 20 pounds. The largest pickerel weighed  $10\frac{1}{2}$  pounds. Perch abound in these lakes but are not taken to any extent, the mesh of the nets in use being too large for them. All the fish caught here meet with a ready sale locally. One gill-net was seized in Katapwe Lake during the close season, but the guardian was unable to ascertain its owner.

There was a good flow of water in the Qu'Appelle river throughout the summer and fish were able to pass readily from lake to lake. It is expected that this will improve the condition of affairs in Crooked and Round lakes, about fifty miles below Katapwe Lake, where there has been a great dearth of whitefish and tullibee for many years. A good deal of angling is done in these two lakes by the resident Indians and Half-breeds, but as at Qu'Appelle, they are unable to use nets to any extent in summer owing to their lack of boats.

The lower course of the Qu'Appelle river was gone over by Guardian Le Cain, who found some illegal fish-traps and evidences of the use of nets. There was a sufficient flow of water, however, to prevent as much harm being done as in former years.

At Long Lake, situated north-east of Regina, the fishing was very good, and there was a large increase in the catch of whitefish. As in former years the summer fishing was carried on for home use only, on account of the difficulty in conveying the fish to a

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market. The lake level continues to rise, the water gaining about twenty-eight inches during the year. Twenty-two net licenses were issued for this lake, in addition to which nearly sixty Indians and half-breeds wintered on its shores, obtaining the bulk of their living by angling. Two men were fined for fishing in the close season and two nets seized. The catch is mostly disposed of at Regina and Moosejaw, but a shipment of whitefish was made to Rossland, B.C. The fishery of this lake is fully not developed as with proper ice houses, etc., there should be room for a profitable summer trade.

Eagle Quill Lake, south of Swift Current, is the only lake in Assiniboia situated south of the C.P.R. main line in which whitefish are found. The lake, which lies between sand hills, is not large, but has splendid water, and is well stocked with fish. The few resident half-breeds make good catches of fish, considering the desultory manner in which they work.

The other small Assiniboian lakes are mostly stocked with pike, pickerel and mullet, and the fishing is done principally by angling, parties from considerable distances visiting them for that purpose. By the appointment of guardians residing in their vicinity the destruction of fish in the spawning seasons has been stopped, and with the full streams of the year, fish have found their way into some of the smaller lakes, in which of late years none had been found.

## MACLEOD DISTRICT.

The only lakes in this district for which net licenses are issued are the Waterton and Crow's Nest lakes. The whitefish taken here are very large and fine, but the supply appears to be limited. Some very fine lake trout have also been taken in these waters. There is a strong feeling in this district that the open season for trout angling is unduly curtailed, and that the closing date (Sept. 15) stops fishing at a time peculiarly propitious for it. The results of my examination of this question bear out this contention, and I consider the season could be extended six weeks without undue detriment.

## EDMONTON DISTRICT.

All the lakes in this district are reported to be in a satisfactory condition, and fish in waters protected by guardians are increasing. No difficulty is experienced in enforcing the regulations, as people generally appreciate the efforts of the department to preserve a good supply of fish.

While the efforts of the department have heretofore been principally concentrated on the larger whitefish lakes, increasing settlement has brought out the value as a food supply of the small lakes so numerous in this district, which are stocked with the coarser varieties of fish. It is probable that these smaller lakes will prove of greater value in the aggregate to the settler than the large whitefish lakes, the latter being more or less difficult of access, and already fished to their limit in most cases by the Indians and half-breeds. The protection required principally for the preservation of these spring spawning fish consists in preventing the blocking of the streams by fish traps.

The whitefish lakes under direct guardianship are now in most satisfactory condition, and Overseer Young reports that the guardians have been able to enforce the regulations without any friction. In most of the lakes fish are said to be large, fat and plentiful. Pigeon Lake is the only one from which any fish were exported to a distance, shipments from here being made to Calgary and Kootenay. The state of the roads in summer prevents a successful prosecution of the fishery at that time. Buck Lake has also a splendid supply of whitefish but is at present too isolated to be much fished. At Lac la Biche fish are reported almost as plentiful as in the early days and are a great resource for the resident half-breeds, who make good catches throughout the summer and early winter, but do not fish after the ice is thick. Saddle Lake is not in good condition, it has been overfished by the Indians and requires a period of rest. The catch

is now so small that were the lake closed entirely, no hardship would result. High water has made much improvement in Beaver Lake, which is a very shallow body of water. It promises to be soon well restocked with coarse fish.

At Buffalo Lake a very large amount of fishing has been done of late, mainly by hook and line through the ice. Nearly 200 settlers, mostly newly-come Germans, Russians and Galicians resorted to the lake this year, and the guardian estimates that they averaged a catch of over 400 lbs. each, mostly pike. No whitefish are found here, but it is proposed to introduce black bass. Little Devils Lake, the nearest whitefish lake to Edmonton and at one time quite fished out is again stocked with whitefish, one man catching 50 very fine fish at the beginning of the season in a single night. Overseer Young recommends this lake as a most suitable place for a hatchery, it having communication by the Sturgeon river, with Lake St. Anne's and the Saskatchewan. The statistical returns from this district are much more complete than in former years and show that while the number of persons absolutely dependent on the fishery for a living is probably diminishing, the vastly increased population will lead to fishing being done in many lakes previously neglected.

#### BATTLEFORD DISTRICT

The fishing in this district is of limited extent and conditions do not vary much from former years. The population around the lakes is very fluctuating, but the demand on their resources is not at present any larger than can be borne. Guardian Gagné reports having destroyed several fish traps this season, but that the destruction of fish with such implements is not so great as formerly.

#### PRINCE ALBERT DISTRICT.

*Overseer Robertson* reports an abundance of fish in all lakes with the exception of a few small lakes adjacent to the settlements where possibly the logging operations of the lumbermen have driven the fish temporarily from their spawning grounds. The number of licenses issued in this district is much smaller than in some previous years, as the export trade in fish has quite stopped. During the period that the exporters were operating on the lakes a large number of men found employment at the fishery. Owing to high transportation charges, however, buyers were unable to pay more than 1½ cents per pound for trout and pickerel, and 2 cents for whitefish on the ice, at which rates the majority of the men left the lakes in the spring in debt. There are no summer roads to most of the lakes, and when the close season extended to December 15 the ice was so thick as to entail much labour in changing the location of the nets when found set in a poor place. For these reasons, there has been very little fishing done for trading purposes, and many of the fishermen have gone into other occupations. The catch by the Indians for their food supply is, however, very large. A family of six, subsisting on fish, as they frequently do for lengthy periods, will consume daily eighteen to twenty fish; with their dog train probably many more.

With so many large lakes teeming with fish, the overseer is of opinion that with the introduction of capital and better transportation, there will be a large development of the fisheries in the near future.

The regulations as to close season, &c., were well observed, and no prosecutions were found necessary.

#### GRAND RAPIDS DISTRICT.

In this district the extent of the waters in proportion to the population is so great that so long as the catch is confined to the food necessities of the residents, no general diminution of the fish supply is to be feared. It has been found necessary, however, in the vicinity of the principal trading posts, to insist upon the observance of a close season, and also upon the taking out of licenses by those who wish to sell or barter their fish. This was enforced without any hardship to the Indians, as the hunt was most successful

## SESSIONAL PAPER No. 22

this year, and they did not depend on fish for their living to the same extent as in some years. Whitefish and coarse fish are taken solely for home consumption, and the only fishing for export has been the sturgeon fishing in Cedar and Moose lakes. Owing to fears that the inducements offered by the fish companies operating from Selkirk and Winnipegosis would lead to more fishing being done than was conducive to the permanency of the fishery in good shape, no licenses were granted to others than residents, and the latter were allowed to sell fish in the winter season only as in the former year. The good catch showed that this course had been successful and that the supply was increasing rather than diminishing. Careful supervision was required as the resident fishermen were suspicious that illegal fishing would be done in the time that they were themselves debarred; but *Overseer McKay* reports confidently that the regulations were closely observed. He reports that the supply of fish is now such that a restricted amount of fishing could be safely allowed next summer without detriment. It has been contended that these lakes should be reserved solely as a food supply for the resident Indians and half-breeds, but so long as the danger of overfishing is carefully guarded against it should prove more beneficial to them to have the privilege of selling their fish, now that they are able to obtain so good a price.

*Overseer McKay* was also instructed to visit the Keewatin water north of Lake Winnipeg, where a large development of the sturgeon fishery had taken place. Fish buyers from Selkirk purchase the catch here, paying \$1.00 per fish of an average weight of 28 pounds. The fish are sent by steamer from Warren's Landing, at the northern extremity of Lake Winnipeg, to Selkirk. In these waters the fishermen all claimed that there was no decrease in the apparent number of fish; but the sturgeon is now so valuable a fish that it is evident that unless the extent of the catch is carefully regulated, a greater amount of fishing will be done than should be allowed, and these waters will become as depleted of sturgeon as in other parts.

I have the honour to be, sir,  
Your obedient servant,

E. W. MILLER,  
*Inspector of Fisheries, N.W.T.*



## NORTH-WEST TERRITORIES.

RETURN of the Number of Fishermen, Boats, Nets, &c., and the Quantity and Value of Fish caught in the North-west Territories for the Year 1901.

Districts.	Fishing Material.					Kinds of Fish.										TOTAL VALUE.	Number.
	Boats.		Gill Nets.			Whitefish, lbs.	Trout, lbs.	Pickarel, lbs.	Pike, lbs.	Sturgeon, lbs.	Perch, lbs.	Tullibee, lbs.	Coarse and Mixed Fish, lbs.				
	Number.	Value.	Men.	Number.	Pathoms.									Value.			
	45	708	75	207	5210	1039	60400	15000	44600	72000	38000	48000	7,038 00	1			
1 Qu'Appelle.....	20	400	25	8	600	140	400	15000	3000	7000	1000	1000	1,020 00	2			
2 McLeod.....	187	1180	230	720	23760	2232	522200	30100	30100	140000	46000	186000	32,943 00	3			
3 Edmonton.....			15	110	2800	380	50000	6000	6000	11000	2000	13000	3,130 00	4			
4 Battleford.....	241	2750	320	472	25230	3320	1009000	58000	390000	480000	22800	10000	75,890 00	5			
5 Prince Albert.....	125	880	210	330	9800	1324	1500000	3700	13500	98000	5000	105000	17,740 00	6			
6 Grand Rapids.....							1500000	25000	250000	350000	20000	200000	94,160 00	7			
7 Northern Districts.....																	
Totals ..	618	5918	875	1847	67400	8426	3339000	101700	737200	1158000	127600	55000	563000				
Values.....\$							166950	5085	22116	23160	6380	110	2480	5630	231,911 00		

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## APPENDIX No. 6

# MANITOBA.

ANNUAL REPORT ON THE FISHERIES OF MANITOBA, BY  
INSPECTOR W. S. YOUNG, 1901.

SELKIRK, MAN., March 18, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

I have the honour to submit the following table of statistics showing the yield and value of the fisheries, the number of fishermen, boats, nets, &c., and the quantity and value of fish caught in the lakes of the Province of Manitoba for the year 1901.

As I was appointed to the position of Inspector of Fisheries for this province only in the month of July, 1901, I have had some difficulty in getting any data before that time.

As was foreshadowed in the preliminary statement published in last year's report the returns show an increase in the quantity of fish caught and exported over the year 1900.

Whitefish have been very plentiful, so much so that some of the companies got all the fish required in about six weeks to two months fishing. I am pleased to report a yield of 1,364,000 pounds over the preceding year's, which goes to show that we have still an abundance of whitefish in our waters, at any rate, I can say so with regard to the waters of Lake Winnipeg.

Pickarel fishing has also been exceptionally good, nearly doubling the yield of 1900. The tables shows an advance of 2,258,600 pounds.

Pike or jack fishing is in excess of 1900 by over 2,606,000 pounds. Tullibee fishing shows an advance of 597,800 pounds over the previous year 1900.

Catfish are in the lead by 365,600 pounds over the preceding catch. Gold eyes show a yield of 192,800 pounds over last year.

Sturgeon have not done so well, there is a falling off in the catch of these valuable fish to the extent of 381,500 pounds, which to my mind has been caused by the high water during the season in our lakes. The water has been on an average three feet higher than the ordinary water level of previous years.

Perch fishing has also declined, being under the yield of 1900 by 19,500 pounds. I don't think these fish have been depleted by overfishing. The perch have been caught to a large extent by an illegal net, three and one half inch mesh to three and three quarters being used, under our regulations four-inch mesh is the smallest allowed, and the regulations being enforced, accounts for the falling off in the catch of these fish.

This year's operations have been most successful both for the companies and the fishermen engaged. The weather on the whole was very good during the fishing season, so that the loss was not so great as it otherwise would have been. The sail boat fishermen caught during the summer season from 50,000 to 150,000 pounds of whitefish to a boat. This does not look as if there was any lack of whitefish in Lake Winnipeg. Lake Winnipeg is in a very healthy condition, there are a few changes which might be made in our regulations which I think would better suit the conditions existing in our waters, which I have already recommended to the department.

During the month of November of this year I had occasion to detain in all about twenty loads of fish. Some were caught without license, others were caught in close

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season. I held these fish for a time, but I finally released them to the fishermen upon getting a promise that they would respect the regulations in the future, which, I think, will have the desired effect.

*Overseer A. J. MacPherson of Dauphin* reports a good yield of fish from Lakes Winnipegosis, Waterhen, and Dauphin. While the weather was somewhat rough during the fishing season there were no heavy losses. The fish were marketed in better condition than in former years. He reports a new cold storage plant at Winnipegosis in which tons of fish were frozen and kept in first class condition. The fish were not as plentiful as they have in former years. But he says they are a better quality. He thinks a fish hatchery should be placed in the vicinity of Lake Winnipegosis in order to keep up the supply of fish. He reports the sinking of one tug during the season and also the swamping of one sail boat by which one poor fellow lost his life.

*Guardian H. Chartrand of St. Laurent* who is in charge of the southern portion of Lake Manitoba, reports an increase in the quantity of fish caught during the year 1901, over the previous year, owing to a more vigorous prosecution of the fishery. The close seasons were well observed. There are three fishways in his district which are in good condition.

*Guardian James Matheson of Moose Horn Bay*, who is in charge of the northern half of Lake Manitoba including the Fairford district and Lake St. Martin, reports that this season's operations were most successful, more fish being caught than in previous years. In fact, he says, this season has been more satisfactory than any for some years. The close seasons have been well observed.

*Guardian Wm. Hughes, Mouth of Red River*, who is in charge of the southern portion of Lake Winnipeg, reports a large catch of fish over the previous year. The close seasons have been well observed. He had considerable trouble getting the Indians to carry the offal from these fish on land and burying it. But now they understand the necessity of doing it and he has no more trouble from them in that respect.

*Guardian Joseph Polson of Winnipeg*, who is in charge of the waters of the Red River in the vicinity of Winnipeg, reports that during the past year he collected fees for eight seine net licenses. The fishermen had a successful season, getting a larger catch than in the previous year. There were no disputes over any matters in his district. He seized four scoop nets at the mouth of the Assiniboine River, near the N. P. R., bridge. He says that he found very few violating the fishing regulations.

*Guardian M. Watts, of Cartwright*, who is in charge of Rock Lake, reports an average season. The close seasons were well observed throughout the year.

I have the honour to be, sir,  
Your obedient servant,

W. S. YOUNG,  
*Inspector of Fisheries.*

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## RECAPITULATION

Of the Yield and Value of **Manitoba** and the **North-west Territories**  
for the Year 1901.

Kinds of Fish.	Quantity.	Rate.	Value.
		cts.	\$
Whitefish..... Lbs.	10,546,600	0 05	427,330
Trout..... "	101,700	0 05	5,085
Pickereel..... "	5,270,900	0 03	158,127
Pike..... "	4,208,300	0 02	84,166
Sturgeon..... "	727,600		42,380
Perch..... "	34,000	0 02	680
Tullibee..... "	926,000	0 02	18,520
Catfish..... "	550,000	0 05	27,500
Mixed and coarse fish..... "	5,585,000	0 01	55,850
Caviare..... "	20,000	1 00	20,000
Gold-eyes..... "	200,000	0 02	4,000
Home consumption..... "	738,600	0 02	14,772
Total for 1901.....			958,410
" 1900.....			718,159
Increase.....			240,251

## RECAPITULATION

Of the Number of Fishing Tugs, Boats, Nets, &c., used in **Manitoba** and the **North-west Territories** for the Year 1901.

Articles.	Value.
	\$
24 fishing tugs (1,497 tons).....	215,910
927 " boats.....	31,893
9,807 gill nets (454,060 fathoms).....	46,472
15 seines (495 fathoms).....	375
2 sound nets.....	300
1,000 night lines.....	1,000
148 freezers and ice-houses.....	136,400
50 piers and wharfs (for fishing).....	14,538
Total.....	446,888

## MANITOBA.

RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &c., in the Province of Manitoba, 1901.

DISTRICTS.	FISHING MATERIAL.														OTHER FIXTURES USED IN FISHING.							
	Tugs or Vessels.				Boats.			Gill Nets.			Seines.		Pound- nets.				Night lines.		Freezers and Ice Houses		Piers and Wharves.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Hooks.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1 Lake Winnipeg and its tributaries . . . . .	18	1362	197200	140	750	18250	1300	5000	250000	25000	10	330	250	2	300	1000	1000	123	125000	38	10000	1
2 Lakes Winnipegosis, Dauphin and Waterhen . . . . .	4	111	16760	25	108	10908	900	2154	114275	10660								16	8400	10	4388	2
3 Lake Manitoba shoal and St. Martin. . . . .	2	24	1950	5	66	2600	106	800	22025	2350	5	165	125					3	3000	2	150	3
4 Rock and Pelican Lakes. . . . .					3	45	3	6	360	36												4
Totals. . . . .	24	1497	215910	170	927	31803	1809	7060	380600	38046	15	495	375	2	300	1000	1000	148	136400	50	14538	

### RETURN showing the Quantity and Value of Fish, &c.—**Manitoba.**

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## APPENDIX No. 7.

## ONTARIO.

## GENERAL REMARKS, SEASON OF 1901.

In comparing the fishery returns of this province with those of last year's, we find a substantial increase, not only in the aggregate catch, but also in the respective yield of almost every district, and this, notwithstanding the severe storms which occurred with unusual frequency in every part of the province, and which greatly impeded the operations of the fishermen.

Not only was the run of herring in the west end of Lake Erie during November phenomenal, but these fish were of an exceptionally good quality, and of remarkable size, some weighing as much as two pounds. The market value of these fish has substantially advanced, the prices for herring being higher than usual, three and even four cents per lb. having been readily obtained.

The catch of whitefish in Georgian bay was better than for the past fifteen years, and the fishermen there rejoice at what they hope indicates a permanent increase of their principal commercial fish.

The black bass which were successfully transplanted during the season seem to have readily adapted themselves to their new surroundings, in some cases large broods have been noticed swimming about under the watchful care of the parent fish, indicating that they have found suitable spawning grounds.

It has appeared convenient for purposes of tabulation and comparison to divide the province into twenty-one fishing districts; and these are again sub-divided, setting forth the chief fishing points in each district, the number of fishermen employed, the tonnage and value of tugs, vessels and boats used, the kinds and value of fishing material operated, and the varieties, quantities and value of fish caught in each division.

The Fisheries Department under the provincial government issued licenses to fish with 2,410,627 fathoms of gill-net, 432 pound-nets, 484 hoop or fyke-nets, 102 seines, 33 dip-nets, and 3 machines, besides several thousand hooks.

The various branches of the fishing industry give employment to 2,802 men, 101 tugs, and 1,299 boats.

An estimated capital of \$749,071 is invested in the industry. The total catch shows a marked increase, and amounts to 27,428,375 pounds, as compared with 25,698,501 pounds last year.

The estimated value of the catch is \$1,428,078.58.

For some years it has been stated that a species of fish unlike either the whitefish or the lake herring occurred in Lake Simcoe. Specimens examined in Toronto showed that this species resemble very strongly the whitefish, though differing therefrom in some well defined respects. Specimens were obtained and left with Professor Ramsay Wright, who kindly offered to make an examination for the purpose of removing the uncertainty. Dr. Bensley, who made the examination, reported that 'the specimen belongs to the genus *Coregonus*, but does not correspond to any of the species described by Jordon and Evermann in their 'Fishes of North and Middle America.' From *C. clupeiferous* it differs in its coloration, in the number of scales, and in its more elongated form. The fact that it occurs in Lake Simcoe, in common with the common whitefish, makes it extremely probable that it belongs to a distinct species.

Its characters approach most closely those of *C. labradoricus*, of which it may be a local variety. It shares with the Labrador whitefish the following characteristics:—

NOTE.—In these remarks of the Ontario fisheries, reliance has been largely placed on the published provincial reports.

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'Colour, dark bluish above, sides silvery, scales with dark punctulations on edges.

'Dimensions correspond very closely.

'Teeth on tongue, present in both.

'The more important differences is in the number of the scales, of which there are 71-76 in longitudinal series in *C. labradoricus*, 83-88 in the specimen submitted.

"The characters are not intermediate between the common whitefish and the lake herring as has been suggested. The gill rakers, which are numerous in herring, are few in this specimen, even fewer than in the common whitefish, and the relationship of the jaws to one another is characteristically coregonoid. The occurrence of two distinct species of whitefish in such a small body of water as Lake Simcoe, is, in all probability, rendered possible by a difference in habits, or in the nature of the food. In the summer of 1899, I examined, at St. Andrew's Marine Station, the stomachs of a number of whitefish obtained by Prof. Prince from fish caught in the northern part of Lake Huron, the contents of which were quite exceptional as whitefish food, consisting for the most part of small fish, sticklebacks, and others. This is a matter of some interest, as I am told that these Lake Simcoe fish are taken with minnow bait. It is possible that the species is distributed over a considerable area of the northern portion of the province, and that individuals reach a greater maximum size in the larger bodies of water.' (The largest specimen submitted was 13 inches in length, and a little over one pound in weight.)

The lesser lake and river inland fisheries are becoming more important each year, not only on account of the large and valuable amount of food which they furnish, but to a much greater extent from the fact that they are a drawing attraction to tourists who come to spend their summer or vacation with us, brought hither by the excellent fishing to be had in the fresh water lakes, rivers and stream with which the province abounds, and by our cool, healthful climate and georgeous scenery; and this source of profit will no doubt increase in the future as new districts are opened up, and become more accessible. It is interesting to contemplate the vast amount of revenue which the citizens of this province will derive from such visitors even a few years hence, if our inland waters are stocked with good varieties of game fish, such as trout, bass and maskinongé, and other varieties as we may be able to introduce them. And, of course, the more and better attractions of this kind we have to offer, the greater the number of people who will come. It is estimated that \$10,000,000 annually are left in Maine by tourists visiting that state.

It was reported last year that specimens of the steel head salmon of the Pacific coast (*Salmo gairdneri*) had been taken in the pound-nets on the north shore of Lake Superior, indicating that fish deposited by the Fish Commissioners of Minnesota had found their way into Canadian waters; and, as these fish possess fine game qualities, arrangements were made by the provincial authorities with the fishermen for the preservation of any caught, and their transfer to a small spring water lake in the vicinity, for distribution therefrom as might be desired; but only some half a dozen were taken. Possibly more may be secured during the approaching season.



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ONT

RETURN of the Number of Fishermen, Tonnage and Value of Tugs, Vessels and Boats,  
caught in the Province of

Number.	DISTRICTS.	FISHING MATERIAL.										
		Tugs or Vessels.			Boats.			Gill-nets.		Pound-nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Yards.	Value.	Number.	Value.
	<i>Lake of the Woods and Rainy River.</i>			\$				\$				\$
1	Lake of the Woods.....	4	30	5050	10	11	580	21	4000	1000	24	1800
2	Eagle Lake.....					1	125	2	1000	200		
3	Lake Manitou.....					1	225	2	1000	275		
4	Shoal Lake.....	1	5	500	3	2	120	2	3000	750		
5	Big Sandy Lake.....					1	75	2	1000	90		
6	Lake Wabigon.....					2	175	2	2000	275		
7	One Man Lake.....					1	75	2	200	100		
8	District lying between the 5th and 7th meridian lines and south of a line running due east from One Side Lake to Whitefish Lake.....					4	400	6	2000	200		
	Totals.....	5	35	5550	13	23	1675	39	15200	2890	24	1800
	Values.....\$											
	<i>Lake Nepigon and Thunder Bay.</i>											
1	Lake Nepigon and Thunder Bay.....					†50	750	75				
	Values.....\$											
	<i>Lake Superior District.</i>											
1	Thunder Bay.....	7	138	12	20	38	1862	54	141750	7425	14	2000
2	Michipicooten Harbour.....	1	12	200	3	1	100	2	700	45	2	1000
3	Little Gros Cap.....					1	100	2	3000	450		
4	Indian Harbour.....	1	45	3500	10							
5	Lizard Islands.....	1	20	3000	5	6	1200	12	36000	2400	5	2400
6	Pointe Mamainse.....	1	18	2500	5				30000	2000		
7	Batchewana Bay.....					6	600	12	10000	800		
8	Goulais Bay and Parasian Islands.....					9	900	20	12000	600	4	2000
9	Caribou Islands.....					1	125	2	2000	200		
10	Otter Head.....					1	75	1	1000	60		
11	Richardson's Harbour.....	1	50	8000	12				24000	2000		
12	Michipicooten Island.....	1	17	4000	12				2400	2100		
13	Pilot Harbour.....					1	200	3			5	1500
	Totals.....	13	300	27175	76	61	5162	108	284450	18080	30	8900
	Values.....\$											

† Canoes.

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## ARIO.

the Quantity and Value of all Fishing Materials ; also the Kinds and Quantities of Fish Ontario, during the Year 1901.

KINDS OF FISH.													TOTAL VALUE	Number.
Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Basas, lbs.	Pickeral or doré, lbs.	Pike, lbs.	Sturgeon, lbs.	Perch, lbs.	Tullibee, lbs.	Catfish, lbs.	Mixed & coarse fish, lbs.	Cavaire, lbs.	Bladders, lbs.		
													\$ c.	
	123553	22365		98775	36036	37367		66	95783	11885	2342	138	27,055 16	1
	11000	1200		6000									1,300 00	2
	4000	3000		2000									720 00	3
	67411			20503	14280								6,989 23	4
	2000	4000											560 00	5
	6000			15000	6000			16000					2,430 00	6
	3700					1000							356 00	7
	17200	210		15703	4000		500	13000					3,137 15	8
	234864	30775		157981	60316	38367	500	29066	95783	11855	2342	138		
	18789	3077		7899	2412	2302	15	1744	4789	237	1171	110	42,547 54	
	55300	77500	75	7000	9000	6000								1
	4424	7750	6	350	360	360							13,250 00	
												Trout, brls.		
225330	289377	583562		178598	1979	6199				740		279	98,198 76	1
	6185	4682		110									968 60	2
	4000	10000											1,320 00	3
	20557	91350										134	12,119 66	4
	55680	124420											16,896 40	5
	8757	60095										17	6,880 06	6
	480	14415				420						8	1,559 90	7
	68483	33825			640							50	9,411 94	8
		10000										166	2,660 00	9
		1700										65	820 00	10
	9466	224809										160	24,837 28	11
	6281	190174											19,519 88	12
	13500	12200				242							2,314 52	13
225330	482766	1361223		178708	2619	6861				740		879		
4506	38621	136123		8935	105	412				14		8790	197,506 80	

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## RETURN of the Number, Tonnage and Value of Vessels and Boats, and the

Number.	DISTRICTS.	FISHING MATERIAL.										
		Tugs or Vessels.				Boats.			Gill-nets.		Pound-nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Yards.	Value.	Number.	Value.
	<i>Lake Huron Division—North Channel.</i>			\$		\$		\$		\$		\$
1	Tenby Bay.....					1	30	2	3000	300		
2	Hilton.....					1	75	1	3000	150		
3	McBeth's Bay.....					1	100	2	1000	60	2	1000
4	Thessalon and Bruce Mines.....	1	15	2000	4	2	200	4	2000	200	4	2000
5	Blind River.....					1	150	3			5	1200
6	Spragge.....	1	16	800	2	4	300	2			8	1000
7	Kegawong.....	1	11	400	4	1	60	2	15000	975		
8	Little Current.....					2	150	4	2500	300		
9	Gore Bay.....	1	20	1500	6	1	100	2	6000	300	5	1500
10	Meldrum Bay.....	1	20	3000	6	1	150	2	24000	3000	5	1000
11	Cockburn Island..	2	40	6500	11	5	550	10	60065	4000	3	600
12	Burnt Island.....	3	75	13500	15	1	100	2	41600	1280	8	2400
13	Duck Island.....	2	35	4500	6	8	1050	16	96000	9500		
14	South Bay Mouth.....	2	40	3000	12	7	745	14	85620	7431		
15	Fitzwilliam Island.....					13	1825	26	26450	1500		
16	Squaw Island.....	2	45	9000	12	2	300	4	60000	6800		
17	Killarney.....	3	82	14200	18	26	2900	170	166500	22619		
18	Bustard Islands.....					10	1450	36	49700	4450		
19	Cutler.....					6	450	12	6000	305		
	Totals.....	19	399	58400	96	112	10685	314	639425	63110	40	10700
	Values.....	\$										

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## Quantity and Value of Fish, &amp;c., in the Province of Ontario—Continued.

KINDS OF FISH.												TOTAL VALUE.	Number.	
Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Bass, lbs.	Pick-erel or Doré, lbs.	Pike, lbs.	Maskinongé, lbs.	Sturgeon, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and Coarse fish, lbs.			Trout, brls.
25		400			800	14000	50						635 00	1
		800	2300			1600					124		460 48	2
		300	1200										144 00	3
		38850	97817		2498	3806		486	100				13,199 00	4
		4000	12000		14000						1000		2,240 00	5
118	10892	10000	8986		40726	1500		6000		197	8772		5,030 03	6
		13000	44000										5,440 00	7
130		2000	2000		1000								930 00	8
50		13928	6820	14670		220		1672					3,278 96	9
40		4000	12000	230	1000			6000	1000				2,138 40	10
1½		40807	144192		1044			220					17,755 16	11
18			242000										24,272 00	12
		139000	87000										19,820 00	13
		124425	83000									41½	18,669 00	14
4		5600	129500										13,414 00	15
		36000	50000										7,880 00	16
		318487	226371		32226	25978	37	376	4164	2248	2536		51,079 30	17
10	16120	159800	76556	120	141000	23000		800		300			28,844 00	18
597													2,388 00	19
993½	27012	911397	1225736	15020	234294	70104	87	15554	5264	2745	12432	41½		
3974	540	72912	122573	1201	11715	2804	5	933	158	137	248	415	217,617 33	

2-3 EDWARD VII., A. 1903

## RETURN of the Number, Tonnage and Value of Tugs, Vessels and Boats, and the

Number.	DISTRICTS.	FISHING MATERIAL.								
		Tugs or Vessels.				Boats.			Gill-nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.
	<i>Georgian Bay Division.</i>			\$			\$			\$
1	Parry Sound .....	2	28	6000	12	10	...	16	...	54000
2	Point Au Baril .....	3	18	6000	15	4	600	8	...	99000
3	Waubashene .....	1	14	1500	2	8	800	16	...	15000
4	Victoria Harbour .....	...	...	...	...	4	400	8	...	8000
5	Midland .....	...	...	...	...	6	900	12	...	20000
6	Penetanguishene .....	...	...	...	...	2	200	4	...	4000
7	Collingwood .....	2	59	6000	12	25	1530	49	...	141900
8	Owen Sound .....	4	82	14000	20	40	2472	79	40	207200
9	Colpoy's Bay and Tobermory .....	4	89	12500	24	15	985	28	328	134800
	Totals .....	16	288	46000	85	114	7887	220	368	653900
	Values .....			\$						

Number.	DISTRICTS.	FISHING MATERIAL.										
		Tugs or Vessels.				Boats.			Gill-nets.		Pound-nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.
	<i>Lake Huron (Proper).</i>			\$			\$			\$		\$
1	Cape Hurd to Southampton .....	3	72	8300	21	30	2650	74	...	168600	11676	2
2	Southampton to Goderich .....	1	13	3000	6	3	90	6	...	32400	2680	...
3	County of Huron, including Grand division .....	1	28	3000	6	12	1350	24	...	49000	3870	11
4	Bosanquet Township .....	...	...	...	...	16	9045	26	5	10500	820	14
5	Plympton .....	1	29½	3500	3	7	300	7	...	...	...	9
6	Sarnia .....	1	16	1200	4	29	1310	43	4	11900	315	28
	Totals .....	7	154½	19000	40	97	14745	180	9	272400	19361	64
	Values .....			\$								

## SESSIONAL PAPER No. 22

Quantity and Value of all Fish, &amp;c., in the Province of Ontario—Continued.

KINDS OF FISH.												TOTAL VALUE.	Number.
Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Pickarel or Dore, lbs.	Pike, lbs.	Sturgeon, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and Coarse Fish, lbs.	Trout, brls.	Whitefish, brls.	Caviare, lbs.	
5		78996	151170	10688	4008								\$ cts.
		107818	113185	41469	7157	134		1138	432				22,151 40 1
40		800	2000	76754	16720	1900			14231				22,377 25 2
404		17500	14000	14000	7000	8750			9000				5,329 12 3
40		31960	95020	25500	10000	3000							6,101 00 4
60			5900										14,073 80 5
122	62310	127893	178449			24588	6603		12500	30	63	4052	1,070 00 6
154	3960	131575	418510							190			34,389 91 7
		5300	442879							595½	2½		54,972 00 8
													50,691 90 9
825	66260	501842	1420513	168411	44895	38372	6603	1138	36163	815½	65½	4052	
3300	1325	40147	142051	8420	1795	2302	198	57	723	8155	655	2026	211,156 38

KINDS OF FISH.												TOTAL VALUE.	Number.
Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Pickarel or Doré, lbs.	Sturgeon, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and Coarse Fish, lbs.	Whitefish, brls.	Trout, brls.	Caviare, lbs.		
417	42700	8127	793316	700	1290	2000		1000		509	400	87,980 76 1	
	1000	2300	110250							344		14,669 00 2	
	31980	2690	106702	43743	4433	2331	130	9954		2	335	14,440 14 3	
	30483	7887	19706	65584	5940	5509	200	15582	1206			19,393 73 4	
	10200	272	50	45655	2430		27	10079				2,862 24 5	
40	102321	2330	3218	25110	42570	120	170					6,536 42 6	
457	218634	23606	1083242	180792	56573	9960	527	36615	1206	855	735		
1828	4372	1888	103324	9039	3394	299	26	732	12060	8550	367	145,882 29	

2-3 EDWARD VII., A. 1908

## RETURN of the Number of Fishermen, Tonnage and Value of Tugs,

Number.	DISTRICTS.	FISHING MATERIAL.													
		Tugs or Vessels.				Boats.			Seines.		Pound Nets.		Hoop Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.	Value.	Number.	Value.
	<i>Lake St. Clair.</i>			\$		\$				\$		\$		\$	
1	River St. Clair.....					13	290	22	13	753	685 50			2	50
2	Thames River... .					13	282	49	13	934	465 00				
3	Lake St. Clair and Detroit River	2	6	1250	5	82	2809	141	19	2627	1434 50	8	1960	81	4380
	Totals. . . . .	2	6	1250	5	108	3381	212	45	4314	2585 00	8	1960	83	4430
	Values.....\$														

## SESSIONAL PAPER No. 22

Vessels and Boats, and the Quantity and Value of all Fish, &amp;c.

KINDS OF FISH.												TOTAL VALUE.	Number.
Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Bass, lbs.	Pickeral or Doré, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and Coarse Fish, lbs.	Caviare, lbs.		
68	51840	.....	.....	114189	3217	.....	15450	3459	390	32483	.....	\$ cts. 8,846 86	1
.....	.....	.....	.....	33990	2025	.....	.....	.....	10	106093	.....	3,882 86	2
....	3500	75840	1900	64413	21318	6432	66982	54141	39314	382843	3036	27,532 20	3
68	55340	75840	1900	212592	26560	6432	82432	57600	39714	520419	3036	.....	.....
272	1106	6067	152	10629	1062	386	4946	1728	1985	10408	1518	40,261 92	.....



## RETURN of the Number and Value of Tugs and Boats, and the Quantity and Value of Fish, &amp;c., in the Province of Ontario—Con.

DISTRICTS.	FISHING MATERIAL.														
	Tugs or Vessels.				Boats.			Gill Nets.				Seinees.		Pound Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.	Yards.	Value.	Number.	Value.
<i>Lake Erie.</i>															
1 Pelee Island.....	3	38	6700	33	6	530	8	200	15500	2378	4	200	70	10	3000
2 County of Essex.....	2	100	9500	11	51	5900	62	80	2780	435	4	200	70	55	18875
3 County of Kent.....	3	206	14460	16	69	10340	87	19	20300	986	...	...	...	88	30000
4 County of Elgin.....	5	72	14500	12	44	4490	86	350	37000	3060	...	...	...	87	44400
5 Houghton and Long Point.....	4	46	16200	27	8	975	9	40	4500	250	19	6850	1860	23	6600
6 Port Rowan Bay.....	...	...	...	...	30	1015	74	40	4500	250	7	1490	380	...	...
7 Normandale.....	...	...	...	...	21	770	37	75	8200	505	...	...	...	...	...
8 East of Port Dover.....	2	80	3500	10	13	590	19	220	23200	2232	...	...	...	14	3500
9 Cayuga to and including Grand River.....	4	72	11000	20	10	265	20	...	46700	2715	5	330	200	4	900
10 Port Maitland to Port Colborne.....	1	14	1400	5	9	787	23	...	7700	1002	...	...	...	4	600
11 Port Colborne to Niagara Falls.....	1	52	600	3	27	1157	33	35	42560	3410	...	...	...	2	500
Totals.....	25	630	77800	137	228	26819	464	1019	208440	16982	35	8810	3520	266	113375

## SESSIONAL PAPER No. 22

RETURN showing the Kinds, Quantity and Value of all Fish, &amp;c., in the Province of Ontario—Continued.

DISTRICTS.	KINDS OF FISH.														TOTAL VALUE.	Number.
	Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Basie, lbs.	Pickarel or Dore, lbs.	Pike, lbs.	Sturgeon, lbs.	Perch, lbs.	Tullibee, lbs.	Catfish, lbs.	Mixed and Coarse Fish, lbs.	Caviare, lbs.	Sturgeon Bladders, lbs.		
<i>Lake Erie.</i>															cts.	\$
1 Pelee Island.....		205910	12535			8325	48620	8645	10120		2960	2680	600		8,839 95	1
2 County of Essex.....		567610	118310			191594	172203	22056	106551		17640	182798	2906		46,874 17	2
3 County of Kent.....		2059751	52561		214	370749	609567	20947	94788		910	124964	504		95,232 39	3
4 County of Elgin.....	64	1278047	79745			736876	52636	22529	43518		5004	50945	984	32	75,359 31	4
5 Houghton and Long Point.....		269662	115746	87		69181	105082	19548	34004		1010	23598	4461		27,284 51	5
6 Port Rowan Bay.....			6606							1841	16130	94484			7,236 24	6
7 Normandale.....			36023	50			8293		42049		4398	19765			4,426 72	7
8 East of Port Dover.....	1	128499	51193	1312		249406	482	17794	48737		488	50490	720		23,209 95	8
9 Cayuga to and including Grand River.....	4	208628	69814	4100		94757	1481	8845	35499		1541	37924	435	450	17,989 47	9
10 Port Maitland to Port Colborne.....	5	71556	25284			47031	75323	19638	27195		105	45779	1293	43	12,459 45	10
11 Port Colborne to Niagara Falls.....		22876	6148		380	22206	29163	26941	24223		450	21966	3516	508	8,236 05	11
Totals.....	164	4865167	526366	5499	10246	1851132	1122224	167681	507659	1841	50636	625183	15467	1033	.....	
Values . . . . .	66	97103	42109	550.00	819	92556	44889	10060	15229	110	2631	12503	7733	826	.....	327,090 21

RETURN of the Number and Value of Tugs, Vessels and Boats, and the Quantity and Value of Fish, &c., in the Province of Ontario—Continued.

FISHING MATERIAL.														
Number.	DISTRICTS.	Tugs or Vessels.			Boats.			Gill Nets.			Hoop Nets.			
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.	Value.	
														Number.
Lake Ontario.														
1	Queenston .....					3	140	3						1
2	Niagara .....					10	760	18	250	20,200	945			2
3	Port Dalhousie .....	2	12	2,800	7	4	220	8	300	26,500	875			3
4	Louth .....					14	340	21	100	4,950	364			4
5	Clinton .....					4	195	7	90	4,700	165			5
6	Grimsby .....					3	300	6	150	14,500	390			6
7	Burlington Beach .....					14	915	26		49,480	2,695			7
8	County of Halton .....					17	2,080	43		69,500	3,895			8
9	County of Peel .....					3	425	6		12,000	355			9
10	County of York .....					18	1,240	20		37,500	3,265			10
11	Electoral District of S. Ontario exclusive of Tp. of Reach .....	1		300	2	4	145	8		3,280	205			11
12	Counties of Durham and Northumberland .....					34	830	22	22	37,450	1,800	19	255 12	12
13	Rice Lake and Trent River .....					30	487	46				79	1,650 13	13
14	Prince Edward county .....	4	34	400	10	36	773	53	20	15,000	607	16	275 14	14
15	Bay of Quinte .....	3	23	1,000	7	20	400	30	10	8,000	300	30	330 15	15
16	Lennox county and Napanee River .....					22	440	31		2,920	91	43	755 16	16
17	Amherst Island and vicinity .....					19	484	24		13,610	679	5	75 17	17
18	Wolf Islands and vicinity .....					20	389	30		3,320	200	43	785 18	18
	Totals .....	10	69	4,500	26	275	11,163	402	942	312,960	16,831	235	4,125	

## SESSIONAL PAPER No. 22

Return showing the Kinds, Quantity and value of all Fish, &amp;c., in the Province of Ontario.—Continued.

KINDS OF FISH.															
DISTRICTS.	Herring salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Bas, lbs.	Pickarel or Dore, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Reis, lbs.	Perch, lbs.	Tullibee, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	Number.
Lake Ontario.															
1 Queenston.	..	5,000	200	..	650	1,200	3,200	..	500	..	5,200	..	..	300	548 00
2 Niagara.	..	334,200	9,650	50	..	17,580	4,000	..	5,430	..	6,900	..	..	..	9,334 40
3 Port Dalhousie.	..	209,778	400	..	..	500	100	..	..	..	9,314	..	..	1,200	4,569 88
4 Louth.	..	38,975	..	..	90	20	2,408	..	..	..	3,215	..	2,750	320	1,124 37
5 Clinton.	14	44,500	..	..	..	..	..	..	..	..	12,200	..	..	..	1,312 00
6 Grimsby.	..	235,000	15,948	..	..	..	..	..	..	..	9,069	..	3,260	6,569	5,975 84
7 Burlington Beach.	..	437,830	19,150	4,300	400	2,400	30,689	..	500	..	900	..	..	12,000	12,662 61
8 County of Haldon.	..	603,763	..	..	..	..	..	..	..	184	1,000	..	400	2,100	12,374 26
9 County of Peel.	..	6,750	950	6,960	3,550	..	350	..	..	..	1,000	..	..	..	1,308 04
10 County of York.	..	339,200	7,900	200	..	..	220	..	..	..	1,000	..	200	7,700	7,638 80
11 Electoral District of South Ontario exclusive of Tp. of Reach.	..	18,800	730	9,000	..	..	525	..	..	..	200	..	25	..	462 65
12 Counties of Durham and Northumb'land.	..	13,000	11,700	..	500	..	48,250	2,000	..	1,800	7,500	..	39,540	33,500	6,898 00
13 Ries Lake and Trent River.	..	..	..	..	..	8,000	5,579	..	..	..	1,000	..	89,549	20,231	5,403 23
14 Prince Edward county.	..	17,613	16,400	41,511	750	11,000	135,260	..	550	29,000	111,300	1,000	90,000	104,200	23,441 76
15 Bay of Quinte.	..	5,000	15,000	..	..	..	121,000	..	..	25,100	115,100	..	65,250	101,300	16,937 50
16 Lennox county and Napanee River.	..	2,900	2,100	..	..	200	39,917	..	..	4,033	10,253	..	32,629	4,636	4,101 82
17 Amherst Island and vicinity.	6	6,166	30,628	2,700	..	1,900	14,511	..	300	8,700	30,917	..	2,500	2,800	4,709 59
18 Wolf Island and vicinity.	..	..	2,435	..	..	961	18,684	..	..	8,700	29,661	..	31,640	13,642	4,266 88
Totals	20	2318475	133,192	64,721	5,940	43,761	424,693	2,000	7,280	68,817	354,729	1,000	357,643	310,518	..
Values	80	46,369	10,655	6,472	475	2,188	16,967	120	436	4,129	10,641	60	17,882	6,210	123,049 73

\* Note. In No. 2, include 4 brls. whitefish, 560 lbs. caviare and 27 lbs. bladders.



## SESSIONAL PAPER No. 22

RETURN showing the Kinds, Quantity and Value of all Fish, &amp;c., in the Province of Ontario—Continued.

DISTRICTS.	KINDS OF FISH.										TOTAL VALUE.	Number.
	Bas, lbs.	Pickered or Dore, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Reis, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	Caviare, lbs.	Sturgeon bladders, lbs.	
1 Frontenac county.	3,313	550	55,407	163	3,387	500	16,996	59,033	40,096	12	...	6,852 01 1
2 Leeds and Lanark counties	200	550	26,408	183	3,387	1,563	17,455	67,061	7,626	117	...	6,974 08 2
3 Grenville, Dundas, Stormont and Glengarry count's.	400	9,048	6,210	1,824	15,474	1,600	1,100	630	500	...	...	1,386 38 3
4 Prescott, Russell and Carleton counties	231	500	4,599	...	1,055	160	3,181	2,300	38,310	...	...	1,811 93 4
5 Renfrew county.	...	550	...	...	700	100	246	700	7,785	...	...	541 22 5
6 Nipissing District	50,000	550	180	...	128,354	...	...	...	550	13,234	397	14,751 79 6
7 Peterborough county	293,700	200	350	43,000	...	200	500	1,000	10,000	...	...	6,977 00 7
8 Lake Simcoe and Victoria county	34,000	4,850	...	504,900	...	2,160	83,500	46,900	53,000	...	...	61,335 60 8
9 Lake Simcoe and tributaries.	500	3,688	800	6,200	...	...	704	1,400	20,000	...	...	5,790 50 9
10 Muskoka District, Grey and Wellington counties.	...	...	...	...	...	...	...	559	9,189	...	...	3,296 87 10
Totals	379,344	19,386	95,854	556,077	148,970	6,373	123,772	179,583	187,049	13,363	397	...
Values	30,347	969	3,834	33,364	8,938	382	3,713	8,979	3,741	6,692	317	109,716 38

2-3 EDWARD VII., A. 1903

## RECAPITULATION of the Number of Fishermen, Tonnage and Value of Tugs, Vessels and

Number.	DISTRICTS.	FISHING								
		Tugs or Vessels.				Boats.			Gill Nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.
				\$			\$			\$
1	Lake of the Woods and Rainy River District	5	35	5,550	13	23	1,675	39	.....	15,200
2	Lake Nepigon and Thunder Bay District					850	750	75	.....	
3	Lake Superior	13	300	27,175	76	61	5,162	108	.....	284,450
4	Lake Huron (North Channel)	19	399	58,400	96	112	10,685	314	.....	639,425
5	Georgian Bay	16	288	46,000	85	114	7,887	220	368	653,900
6	Lake Huron (proper)	7	158	19,000	40	97	14,745	180	9	272,400
7	Lake and River St. Clair and Thames River	2	6	1,250	5	108	3,381	212	*24	133
8	Lake Erie and Grand River	25	630	77,860	137	288	26,819	464	1,019	208,440
9	Lake Ontario	10	69	4,500	26	275	11,163	402	942	317,960
10	Frontenac county					72	879	103	.....	1,975
11	Leeds and Lanark counties					58	828	84	15	450
12	Grenville, Dundas, Stormont and Glengarry counties					7	75	8	.....	
13	Prescott, Russell and Carleton counties					37	462	41	1	1,032
14	Renfrew county					20	138	23	25	735
15	Nipissing District	4	6	4,500	11	19	557	32	.....	18,440
16	Peterborough county					1	75	1	1	300
17	Lake Scugog and Victoria county					4	40	4	..	120
18	Lake Simcoe and Tributaries		No	returns.						
19	Muskoka District, Grey and Wellington counties					3	58	3	3	800
	Totals	101	1,891	244,235	459	1,299	84,629	2,313	2,383	2,410,627
										174,514

§ Canoes.

## SESSIONAL PAPER No. 22

Boats, the Quantity and Value of all Fishing Material, &amp;c., in the Year 1901.

MATERIAL.									OTHER FIXTURES USED IN FISHING.				
Seines.			Pound Nets.		Hoop Nets.		Night Lines.		Freezers and ice-houses.		Piers and wharves.		Number.
Number.	Yards.	Value.	Number.	Value.	Number.	Value.	Number of Hooks.	Value.	Number.	Value.	Number.	Value.	
		\$		\$		\$		\$				\$	
			24	1,800	10	500			5	2,400	2	150	1
								5,000					2
			30	8,900					13	5,150	4	15,000	3
			40	9,700					5	950	3	1,550	4
									19	3,275	4	1,650	5
9	1,410	579	64	12,185					20	2,315			6
45	4,314	2,585	8	1,960	83	4,430	14,500	931	24	2,775	1	100	7
35	8,810	2,520	266	113,375	1	25	2,600	30	118	37,007	4	2,200	8
7	3,810	1,125	† 3	275	235	4,125	2,000	43	53	3,430	12	1,112	9
6	48	45			61	1,281	75	3	2	- 19			10
					88	1,385	1,350	42			30	525	11
							3,700	37					12
			*9	4	2	40	2,090	21	3	80			13
					2	50							14
							8,000	80	5	1,475			15
													16
					2	36							17
													18
													19
102	18,392	6,854	432	140,190	484	11,872	34,315	6,187	267	58,876	60	22,287	

\* Dip Nets. † Machines.



## RETURN of the Number of Fishermen, Tonnage and Value of Tugs or Vessels, Boats, Seines, Pound Nets and Hoop Nets

Number.	DISTRICTS.	FISHING MATERIAL.												
		Tugs or Vessels.				Boats.			Seines.		Pound Nets.		Hoop Nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.	Value.	Number.
	<i>Lake St. Clair.</i>			\$			\$			\$			\$	
1	River St. Clair.....					13	290	22	13	753	685 50			2
2	Thames River.....					13	282	49	13	934	465 00			
3	Lake St. Clair and Detroit River	2	6	1250	5	82	2809	141	19	2627	1434 50	8	1960	81
	Totals.....	2	6	1250	5	108	3381	212	45	4314	2585 00	8	1960	83
	Values.....\$													

## SESSIONAL PAPER No. 22

Vessels and Boats, and the Quantity and Value of all Fish, &amp;c.

KINDS OF FISH.												TOTAL VALUE.	Number.
Herring, salted, bbls.	Herring, fresh, lbs.	Whitefish, lbs.	Bas, lbs.	Pickeral or Doré, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and Coarse Fish, lbs.	Caviare, lbs.		
68	51840	.....	.....	114189	3217	.....	15450	3459	390	32483	.....	\$      cts.	
.....	.....	.....	.....	33990	2025	.....	.....	.....	10	106093	.....	8,846 86	1
.....	3500	75840	1900	64413	21318	6432	66982	54141	39314	382843	3036	3,882 86	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,532 20	3
68	55340	75840	1900	212592	26560	6432	82432	57600	39714	520419	3036	.....	
272	1106	6067	152	10629	1062	386	4946	1728	1985	10408	1518	40,261 92	

## RETURN of the Number and Value of Tugs and Boats, and the Quantity and Value of Fish, &amp;c., in the Province of Ontario—Con.

Number.	FISHING MATERIAL.													
	Tugs or Vessels.				Boats.		Gill Nets.			Saines.		Pound Nets.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.	Yards.	Value.	Number.
<i>Lake Erie.</i>														
1 Pelee Island.....	3	38	6700	33	6	530	8	200	15500	2378	4	200	70	10
2 County of Essex.....	2	100	9500	11	51	5900	62	80	2780	435	4	200	70	55
3 County of Kent.....	3	206	14460	16	69	10340	87	19	20308	995	...	...	...	88
4 County of Elgin.....	5	72	14500	12	44	4490	86	19	20308	995	...	...	...	67
5 Houghton and Long Point.....	4	46	16200	27	8	975	9	350	37000	3060	...	...	...	22
6 Port Rowan Bay.....	...	...	...	...	30	1015	74	40	4500	250	19	6850	1860	...
7 Normandale.....	...	...	...	...	21	770	37	75	8200	505	7	1430	390	...
8 East of Port Dover.....	2	30	3500	10	13	690	19	220	23230	2232	5	330	200	14
9 Cayuga to and including Grand River.....	4	72	11000	20	10	265	20	...	46700	2715	5	330	200	4
10 Port Maitland to Port Colborne.....	1	14	1400	5	9	787	29	...	7700	1002	...	...	...	4
11 Port Colborne to Niagara Falls.....	1	52	600	3	27	1157	33	35	42560	3410	...	...	...	2
Totals.....	25	630	77860	137	228	28819	464	1019	208440	16982	35	8810	2520	266
														113875

## SESSIONAL PAPER No. 22

RETURN showing the Kinds, Quantity and Value of all Fish, &amp;c., in the Province of Ontario--Continued.

DISTRICTS.	KINDS OF FISH.											TOTAL VALUE.	Number.
	Herring, fresh, lbs.	Whitefish, lbs.	Trou, lbs.	Bas, lbs.	Pickarel or Dore, lbs.	Pike, lbs.	Sturgeon, lbs.	Perch, lbs.	Tullibee, lbs.	Catfish, lbs.	Mixed and Coarse Fish, lbs.	Caviare, lbs.	Sturgeon Bladders, lbs.
<i>Lake Erie.</i>													
1 Pelee Island.....	206910	12535	.....	.....	8825	48620	8645	10120	.....	2860	2860	600	.....
2 County of Essex.....	567610	118310	.....	.....	191594	172203	22056	106551	.....	17640	152798	2006	.....
3 County of Kent.....	2059751	52561	.....	214	370749	609567	20947	94788	.....	910	124964	504	.....
4 County of Elgin.....	1278047	79745	.....	.....	736876	52626	22629	43618	.....	5004	50945	984	32
5 Houghton and Long Point.....	269662	115746	87	.....	69181	105082	19548	34004	.....	1010	23598	4461	.....
6 Port Rowan Bay.....	.....	.....	.....	6173	36701	18484	.....	40975	1841	16130	94494	.....	.....
7 Normandale.....	6605	.....	.....	3469	24907	8293	.....	42049	.....	4388	19765	.....	.....
8 East of Port Dover.....	128499	51193	1312	.....	249406	482	17794	48737	.....	488	60490	720	.....
9 Cayuga to and including Grand River.....	208628	69814	4100	.....	94757	1481	8945	35499	.....	1541	37924	435	450
10 Port Maitland to Port Colborne.....	71556	25284	.....	.....	47031	75323	19638	27195	.....	105	45779	1293	43
11 Port Colborne to Niagara Falls.....	22876	6148	.....	390	22206	29163	26941	24223	.....	450	21966	3516	508
Totals.....	4865167	528366	5499	10246	1851132	1122224	167681	507659	1841	60636	626183	15467	1033
Values.....	97103	42109	550.00	819	92556	44889	10060	15229	110	2831	12508	7733	826

RETURN of the Number and Value of Tugs, Vessels and Boats, and the Quantity and Value of Fish, &c., in the Province of Ontario—Continued.

FISHING MATERIAL.												
Districts.	Tugs or Vessels.			Boats.			Gill Nets.			Hoop Nets.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.	Value.
Lake Ontario.												
1 Queenston .....	1		300	2	4	145	8	22	37,450	1,800	19	255 12
2 Niagara .....					34	830	22	22			79	1,650 13
3 Port Dalhousie .....	2	12	2,800	7	4	220	8	300	26,500	875	16	275 14
4 Leith .....					14	340	21	100	4,950	364	30	330 15
5 Clinton .....					4	195	7	90	4,700	165	43	756 16
6 Grimsby .....					3	300	6	150	14,500	380	5	75 17
7 Burlington Beach .....					14	915	26		49,480	2,695	43	785 18
8 County of Halton .....					17	2,080	43		69,500	3,895		
9 County of Peel .....					3	425	6		12,000	365		
10 County of York .....					18	1,240	20		37,500	3,265		
11 Electoral District of S. Ontario exclusive of Tp. of Reach .....	1		300	2	4	145	8		3,280	205		
12 Counties of Durham and Northumberland .....					34	830	22	22	37,450	1,800		
13 Rice Lake and Trent River .....					30	487	46					
14 Prince Edward county .....	4	34	400	10	36	773	53	20	15,050	607		
15 Bay of Quinte .....	3	23	1,000	7	20	400	30	10	8,000	300		
16 Lennox county and Napanee River .....					22	440	31		2,920	91		
17 Amherst Island and vicinity .....					19	484	24		13,610	679		
18 Wolf Islands and vicinity .....					20	389	30		3,320	200		
Totals .....	10	69	4,500	26	275	11,163	402	942	312,960	16,831	235	4,125

## SESSIONAL PAPER No. 22

Return showing the Kinds, Quantity and value of all Fish, &amp;c., in the Province of Ontario.—Continued.

KINDS OF FISH.																
DISTRICTS.	Herring salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Bas, lbs.	Pickarel or Dore, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Rele, lbs.	Perch, lbs.	Tullibee, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	\$ cts.	TOTAL VALUE.
Lake Ontario.																
1 Queenston.....	.....	5,000	200	.....	650	1,200	3,200	.....	500	.....	5,200	.....	.....	300	548 00	1
2 Niagara.....	.....	334,200	9,650	50	.....	17,580	4,000	.....	5,430	.....	6,900	.....	.....	.....	9,334 40	2
3 Port Dalhousie.....	.....	209,778	400	.....	.....	500	100	.....	.....	.....	9,314	.....	.....	1,200	4,569 86	3
4 Louth.....	.....	38,975	.....	.....	90	20	2,408	.....	.....	.....	3,215	.....	2,750	320	1,124 37	4
5 Clinton.....	14	44,500	.....	.....	.....	.....	.....	.....	.....	.....	12,200	.....	.....	.....	1,312 00	5
6 Grimsby.....	.....	235,000	15,948	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,975 84	6
7 Burlington Beach.....	.....	437,830	19,150	4,300	.....	2,400	30,689	.....	500	.....	9,069	.....	3,260	6,569	12,662 61	7
8 County of Halton.....	.....	608,763	.....	.....	400	.....	.....	.....	.....	.....	.....	.....	.....	12,000	12,374 26	8
9 County of Peel.....	.....	6,750	950	6,960	3,550	.....	350	.....	.....	184	1,000	.....	400	2,100	1,308 04	9
10 County of York.....	.....	339,200	7,900	200	.....	.....	220	.....	.....	.....	1,000	.....	200	7,700	7,638 80	10
11 Electoral District of South Ontario exclusive of Tp. of Reach.....	.....	18,800	730	.....	.....	.....	525	.....	.....	.....	200	.....	25	.....	462 65	11
12 Counties of Durham and Northumb'land.....	.....	13,000	11,700	9,000	500	.....	48,250	2,000	.....	.....	7,500	.....	39,040	33,500	6,898 00	12
13 Rice Lake and Trent River.....	.....	.....	.....	.....	.....	.....	5,579	.....	.....	.....	1,800	.....	89,549	20,231	5,403 23	13
14 Prince Edward county.....	.....	17,613	16,400	41,511	750	8,000	135,260	550	23,000	23,000	111,300	1,000	90,000	104,200	23,441 76	14
15 Bay of Quinte.....	.....	5,000	15,000	.....	.....	11,000	121,000	.....	.....	25,100	115,100	.....	65,250	101,300	16,937 50	15
16 Lennox county and Napanee River.....	.....	2,900	2,100	.....	.....	200	39,917	.....	.....	4,033	10,253	.....	32,629	4,656	4,101 82	16
17 Amherst Island and vicinity.....	6	6,166	30,629	2,700	.....	1,900	14,511	.....	300	.....	30,917	.....	2,500	2,800	4,709 59	17
18 Wolf Island and vicinity.....	.....	.....	2,435	.....	.....	961	18,684	.....	.....	8,700	23,661	.....	31,640	13,642	4,266 88	18
Totals.....	20	231,647 5	133,192	64,721	5,940	43,761	424,693	2,000	7,280	68,817	354,729	1,000	357,643	310,518	.....	.....
Values.....	80	46,369	10,655	6,472	475	2,188	16,987	120	436	4,129	10,641	60	17,882	6,210	123,049 73	.....

\* Note. In No. 2, include 4 brls. whitefish, 560 lbs. caviare and 27 lbs. bladders.

Return of the Value of Tugs and Boats, and the Quantity and Value of Fish, &c., in the Province of Ontario—Continued.

Districts.	FISHING MATERIAL.										KINDS OF FISH.							
	Tugs or Vessels.			Boats.			Gill Nets.			Hoop Nets.		Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Number.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.	Value.	Number.						Value.	
1 Frontenac county.....	72		\$ 879	103		1,975	455	61	1,281				15,470			275	1	
2 Leeds and Lanark counties.....	58		828	84	15	450	195	88	1,385				772	1,200		12,000	2	
3 Grenville, Dundas, Stormont and Glengarry counties.....	7		75	8													3	
4 Prescott, Russell and Carleton counties.....	37		462	41	1	1,032	94	2	40						370	4	4	
5 Renfrew county.....	20		138	23	26	731	178	2	50							117	5	
6 Nipissing District.....	4	6	4,500	11	19	557	32	2		18,440	2,305	14	350	400		250	6	
7 Peterborough County.....	1		75	1	1	300	10	2	36							1,200	7	
8 Lake Scugog and Victoria county.....	4		40	4		120	8						1,600	750		16,300	8	
9 Lake Simcoe and tributaries.....													8,500	10,700		9,600	9	
10 Muskoka District, Grey and Wellington counties.....													528	2,117		26,216	10	
Totals.....	4	6	4,500	11	221	3,112	299	45		23,848	3,298	131	2,792	14	27,200	16,267	65,958	
Values.....															544	1,301	6,596	

## SESSIONAL PAPER No. 22

RETURN showing the Kinds, Quantity and Value of all Fish, &amp;c., in the Province of Ontario—Continued.

Districts.	KINDS OF FISH.											TOTAL VALUE	Number.
	Basas, lbs.	Pickarel or Dore, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Fels, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	Caviare, lbs.	Sturgeon bladders, lbs.		
1 Frontenac county. ....	3,313	550	55,407	153	3,387	590	16,996	59,039	40,095	.....	.....	6,852 01	1
2 Leeds and Lanark counties. ....	200	550	26,408	153	3,387	1,563	17,455	67,061	7,620	12	.....	6,974 08	2
3 Grenville, Dundas, Stormont and Glengarry count's.	400	9,048	1,900	1,824	15,474	1,600	1,100	630	500	117	.....	1,386 38	3
4 Prescott, Russell and Carleton counties. ....	231	500	6,210	.....	1,055	160	3,181	2,300	38,310	.....	.....	1,811 93	4
5 Renfrew county. ....	500	550	4,599	.....	700	100	246	700	7,785	.....	.....	541 22	5
6 Nipissing District. ....	50,000	550	180	43,000	128,354	200	500	.....	550	13,234	397	14,751 79	6
7 Peterborough county. ....	299,700	200	350	504,900	.....	2,160	83,500	46,900	10,000	.....	.....	6,977 00	7
8 Lake Scurog and Victoria county. ....	34,000	4,850	.....	6,200	.....	.....	.....	1,400	53,000	.....	.....	61,335 60	8
9 Lake Simcoe and tributaries. ....	500	3,688	800	.....	.....	794	.....	559	20,000	.....	.....	5,790 50	9
10 Muskoka District, Grey and Wellington counties. ....	.....	.....	.....	.....	.....	.....	.....	.....	9,189	.....	.....	3,286 87	10
Totals. ....	379,344	19,386	95,854	556,077	148,970	6,373	123,772	179,583	187,049	13,363	397	.....	.....
Values. ....	80,347	969	3,834	33,364	8,938	382	3,713	8,979	3,741	6,682	317	109,716 38	.....



2-3 EDWARD VII., A. 1903

## RECAPITULATION of the Number of Fishermen, Tonnage and Value of Tugs, Vessels and

Number.	DISTRICTS.	FISHING								
		Tugs or Vessels.				Boats.			Gill Nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.
				\$			\$			\$
1	Lake of the Woods and Rainy River District	5	35	5,550	13	23	1,675	39	...	15,200
2	Lake Nepigon and Thunder Bay District					850	750	75	...	
3	Lake Superior	13	300	27,175	76	61	5,162	108	...	284,450
4	Lake Huron (North Channel)	19	399	58,400	96	112	10,685	314	...	639,425
5	Georgian Bay	16	288	46,000	85	114	7,887	220	368	653,900
6	Lake Huron (proper)	7	158	19,000	40	97	14,745	180	9	272,400
7	Lake and River St. Clair and Thames River	2	6	1,250	5	108	3,381	212	*24	133
8	Lake Erie and Grand River	25	630	77,860	137	288	26,819	464	1,019	208,440
9	Lake Ontario	10	69	4,500	26	275	11,163	402	942	317,960
10	Frontenac county					72	879	103		1,975
11	Leeds and Lanark counties					58	828	84	15	450
12	Grenville, Dundas, Stormont and Glengarry counties					7	75	8		
13	Prescott, Russell and Carleton counties					37	462	41	1	1,032
14	Renfrew county					20	138	23	25	735
15	Nipissing District	4	6	4,500	11	19	557	32	...	18,440
16	Peterborough county					1	75	1	1	300
17	Lake Scugog and Victoria county					4	40	4	...	120
18	Lake Simcoe and Tributaries		No	returns.						
19	Muskoka District, Grey and Wellington counties					3	58	3	3	800
	Totals	101	1,891	244,235	459	1,299	84,629	2,313	2,383	2,410,627
										174,514

§ Canoes.

## SESSIONAL PAPER No. 22

Boats, the Quantity and Value of all Fishing Material, &amp;c., in the Year 1901.

MATERIAL.									OTHER FIXTURES USED IN FISHING.				
Seines.			Pound Nets.		Hoop Nets.		Night Lines.		Freezers and ice-houses.		Piers and wharves.		Number.
Number.	Yards.	Value.	Number.	Value.	Number.	Value.	Number of Hooks.	Value.	Number.	Value.	Number.	Value.	
		\$		\$		\$		\$				\$	
.....	.....	.....	24	1,800	10	500	.....	.....	5	2,400	2	150	1
.....	.....	.....	.....	.....	.....	.....	.....	5,000	.....	.....	.....	.....	2
.....	.....	.....	30	8,900	.....	.....	.....	.....	13	5,150	4	15,000	3
.....	.....	.....	40	9,700	.....	.....	.....	.....	5	950	3	1,550	4
.....	.....	.....	.....	.....	.....	.....	.....	.....	19	3,275	4	1,650	5
9	1,410	579	64	12,185	.....	.....	.....	.....	20	2,315	.....	.....	6
45	4,814	2,585	8	1,960	83	4,430	14,500	931	24	2,775	1	100	7
35	8,810	2,520	266	113,375	1	25	2,600	30	118	37,007	4	2,200	8
7	3,810	1,125	† 3	275	235	4,125	2,000	43	53	3,430	12	1,112	9
.....	.....	.....	.....	.....	61	1,281	75	3	2	- 19	.....	.....	10
6	48	45	.....	.....	88	1,385	1,350	42	.....	.....	30	525	11
.....	.....	.....	.....	.....	.....	.....	3,700	37	.....	.....	.....	.....	12
.....	.....	.....	*9	4	2	40	2,090	21	3	80	.....	.....	13
.....	.....	.....	.....	.....	2	50	.....	.....	.....	.....	.....	.....	14
.....	.....	.....	.....	.....	.....	.....	8,000	80	5	1,475	.....	.....	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	2	36	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19
102	18,392	6,854	432	140,190	484	11,872	34,315	6,187	267	58,876	60	22,287	

\* Dip Nets.    † Machines.

2-3 EDWARD VII., A. 1903

## RECAPITULATION by Districts of the kinds and

Number.	DISTRICTS.	KINDS							
		Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Bas, lbs.	Pickeral or Doré, lbs.	Pike, lbs.	Mashinonge, lbs.
1	Lake of the Woods and Rainy River District			234,864	30,775		157,981	60,316	
2	Lake Nipigon and Thunder Bay District			55,300	77,500	75	7,000	9,000	
3	Lake Superior		295,330	482,766	1,361,223		178,708	2,619	
4	Lake Huron (North Channel)	993½	27,012	911,397	1,225,736	15,020	234,294	70,104	87
5	Georgian Bay	825	66,260	501,842	1,420,513		168,411	44,885	
6	Lake Huron (proper)	457	218,634	23,606	1,033,242		180,792		
7	Lake and River St. Clair and Thames River	68	55,340	75,840		1,900	212,592	26,560	6,432
8	Lake Erie and Grand River	16½	4,855,167	526,366	5,499	10,246	1,851,132	1,122,224	
9	Lake Ontario	20	2,318,475	133,192	64,721	5,940	43,761	424,693	2,000
10	Frontenac county		15,470		275			55,407	
11	Leeds county		772	1,200	12,000	3,313		26,408	153
12	Grenville, Dundas, Stormont and Glengarry counties					200	550	1,900	1,824
13	Prescott, Russell and Carleton counties			370		400	9,048	6,210	
14	Renfrew county			700	117	231	500	4,599	
15	Nipissing District	1½	350	400	250		550	180	
16	Peterborough county				1,200	50,000			43,000
17	Lake Scugog and Victoria county		1,600	750	16,300	290,700	200	350	504,900
18	Lake Simcoe and tributaries		8,500	10,700	9,600	34,000	4,850		6,200
19	Muskoka District, Grey and Wellington counties		528	2,147	26,216	500	3,688	800	
	Totals	2,381½	7,793,438	2,961,440	5,285,167	412,525	3,054,067	1,856,255	564,596

## SESSIONAL PAPER No. 22

quantities of Fish caught during the Year 1901.

OF FISH.

Sturgeon, lbs.	Eels, lbs.	Perch, lbs.	Tullibee, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	Caviare, lbs.	Sturgeon bladders, lbs.	Trout, salted, brls.	Whitefish, salted, brls.	Value.	Number.
										\$ cts.	
38,367		500	29,066	95,783	11,885	2,342	138			42,547 54	1
6,000										13,250 00	2
6,861					740			879		197,506 80	3
15,554		5,264		2,745	12,432			414		217,617 33	4
38,372		6,603		1,138	36,163	4,052		8154	654	211,156 38	5
56,573		9,960		527	36,615	735		855	1,206	145,882 29	6
82,432		57,600		39,714	520,419	3,036				40,261 92	7
167,681		507,659	1,841	50,636	625,183	15,467	1,033			327,090 21	8
7,280	68,817	354,729	1,000	357,643	310,518	560	27		4	123,049 73	9
	590	16,996		59,033	40,095					6,852 01	10
3,387	1,563	17,455		67,061	7,620	12				6,974 08	11
15,474	1,600	1,100		630	500	117				1,386 38	12
1,055	160	3,181		2,300	38,310					1,811 93	13
700	100	246		700	7,785					541 22	14
128,354					550	13,234	397			14,751 79	15
	200	500		1,000	10,000					6,977 00	16
	2,160	83,500		46,900	53,000					61,335 60	17
				1,400	20,000					5,790 50	18
		794		559	9,189					3,295 87	19
568,090	75,190	1,066,087	31,907	727,769	1,741,004	39,555	1,595	2,591	1,2754	1,428,078 58	

## STATEMENT

Of the yield and value of the Fisheries of the Province for the year 1901.

Kinds of Fish.	Quantity.	Price.		Value.
		\$	cts.	\$ cts.
Whitefish.....	brls. 1,275½	10	00	12,755 00
".....	lbs. 2,961,440	0	08	236,915 20
Herring.....	" 7,793,438	0	02	155,868 76
".....	brls. 2,381½	4	00	9,526 00
Trout.....	" 2,591	10	00	25,910 00
".....	lbs. 5,285,167	0	10	528,516 70
Bas.....	" 412,525	0	08	33,002 00
Pickarel.....	" 3,064,067	0	05	152,702 85
Pike.....	" 1,856,255	0	04	74,250 20
Maskinongé.....	" 564,596	0	06	33,875 76
Sturgeon.....	" 568,090	0	06	34,085 40
Caviare.....	" 39,555½	0	50	19,777 75
Bladders.....	" 1,596	0	80	1,276 00
Eels.....	" 75,190	0	06	4,511 40
Perch.....	" 1,066,087	0	03	31,982 61
Catfish.....	" 727,769	0	05	36,388 45
Coarse fish.....	" 1,741,004	0	02	34,820 08
Tullibee.....	" 31,907	0	06	1,914 42
Total.....				1,428,078 58

## RECAPITULATION

Of all fishing tugs, boats, nets, &amp;c., employed in the Province for the year 1901.

Articles.	Value.
	\$
101 tugs, 1,891 tonnage, 489 men.....	244,235
1,299 boats, 2,313 men.....	84,629
2,410,627 yards gill-nets.....	174,514
102 seines, 18,392 yards.....	6,864
432 pound-nets.....	140,190
484 hoop-nets.....	11,872
33 dip-nets.....	137
34,315 hook and set lines.....	6,187
267 freezers and ice houses.....	58,876
60 piers and wharfs.....	22,287
3 machines.....	273
115 spears.....	115
50 canoes.....	750
Total.....	749,071

## APPENDIX No. 8.

## QUEBEC.

REPORT ON THE GULF OF ST. LAWRENCE DISTRICT, INSPECTOR W.  
WAKEHAM, M.D., GASPÉ BASIN, P.Q.

SOUTH SHORE DISTRICT, INSPECTOR N. LAVOIE, M.D., L'ISLET, P.Q.

INLAND DISTRICT, INSPECTOR A. H. BELLIVEAU, OTTAWA.

GASPÉ BASIN, January 2, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I beg to submit the usual annual report, and statistics of the fisheries of the Gulf division, province of Quebec, for the year just closed. As was foreshadowed in the preliminary statement, which accompanied the report for 1900, the returns for the season of 1901 show the material increase in value over those for 1900, of \$236,096. This is due to the increased yield of the salmon, cod and mackerel fisheries—the herring and lobster fisheries show a considerable decrease—in the case of the herring this is due altogether to the roughness of the weather in the fall, when the fat herring are usually taken in gill-nets, set some distance from the shore. The decrease in the lobster pack is simply that steady and regular falling off, due to the overfishing of the last 12 years, which must be expected to continue, until some more drastic remedy has been applied. I beg to offer a few remarks on the various fisheries in the order of their importance, and to append synopses of the reports of some of the local fishery officers.

## COD.

The cod fishery began in May, fully two weeks earlier than usual, and was most abundant, on the south coast of the Gulf division, during the time of the summer fishing, which ends with August. Nothing whatever was done in the fall, as after the middle of September the weather was so continuously rough that the boats seldom ventured out, and long before the usual time for closing, at most of the larger fishing stations, they had been hauled up, and placed in security for winter. On the lower north shore, that part of the coast east of Natashquan, the early fishery in June and July was greatly hampered by the presence of field ice—for three years in succession the same thing has happened—field ice being driven in from the North Atlantic; through the Strait of Belle Isle, by continuous east winds, this ice extended as far west as Meccatina. Codfish were abundant on the shore, but it was impossible to leave the trap-nets out; after the passing of the ice the hand and line fishery was good, but by this time the Capelin run was over, and the nets did little or nothing.

## SALMON.

The salmon net fishery in Gaspé and Bonaventure counties was below the average, but the returns show an enormous yield, along the north coast, in the county of Saguenay, from Natashquan west. The catches in the estuaries of some of the larger rivers, such as Moisie, St. John and Natashquan, were unusually heavy, while some of the ordinary seacoast nets made phenomenal hauls.

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Fishermen in Gaspé and Bonaventure give various reasons for the failure in the catch, but I fancy that the real cause was that owing to a mild winter, and a light snowfall, with a very early spring—the freshets were over early, and the fish ran right up the rivers, and did not linger in the bays, where most of the nets are set. In fact, I believe that in many places the main run had passed before the nets were set. Fish were abundant in the rivers, and the angling was good early in the season before the water got too low and clear.

## MACKEREL.

This fishery, which is now only prosecuted at the Magdalen Island, shows a considerable increase over that of any recent year, 12,424 lbs. being taken as compared with 7,951 lbs. in 1900 and 5,391 lbs. in 1899. Mackerel were abundant all season about the Islands, the price, however, was low, and the fishery though one of the best ever made, was not prosecuted with the zeal which higher prices would have developed in the fishermen, had this inducement to work been forthcoming, an even better fishery could easily have been made. A few mackerel were taken along the south shore of the Bay Chaleur, but over all the rest of the Gulf division, save at the Magdalen Islands, none whatever were seen.

## LOBSTERS.

The returns showing the pack of lobsters give a falling off in value as compared with the previous season of nearly \$40,000, only 825,171 lbs. having been packed while 1,022,106 lbs. were put up in 1900. There is a manifest disposition, on the part of the smaller operators to go out of the business. This is likely to continue, several have assured me this past season that they will not pack in 1902. For many reasons this is desirable.

At Fox Bay, Anticosti, Mr. Menier has opened that which is in all respect a model cannery, the building is large well finished, and subdivided, and is lit by electricity throughout, as are all the cook rooms, offices and outbuildings which surround it. The arrangements for boiling cracking and filling are perfect, there is about the whole establishment, an evidence of permanency, cleanness, light and order which I have not before seen in a lobster or salmon cannery. No solder is used in sealing the tins. These are punched by heavy machinery out of a single sheet of tin, while the lid is folded on automatically under great pressure. The lobster supply is furnished from both shores of the northern end of the Island. Small camps being established at regular intervals along shore, where two or three men are stationed, each having a certain number of traps to fish. A steamer calls daily, weather permitting, at each station and collects the catch, which is carried directly to the cannery wharf and landed. The lobsters are then run up by a small tramway to the boiling house. Nearly all Mr. Menier's fishermen come from Nova Scotia, while the men and girls engaged in and about the cannery come mostly from Saguenay county and Gaspé. It is Mr. Menier's intention to open next season a second cannery at or near the South Point of the Island somewhat similar to the one at Fox Bay.

## HERRING.

The catch of herring, as I have elsewhere said, shows a considerable falling off amounting in value, as compared with the previous season to the sum of about \$30,000. This, however, is not due to any exhausted condition of the herring fishery, but simply to the fact that during the season of the fat herring fishery, which extends from about the middle of September to the close of navigation in the Gulf, the weather was so rough that in many places the boats could not go out to fish the gill-nets or drift. A failure in this fishery means a great loss to the individual fisherman, and especially to the poorer class of fishermen such as are found settled on the North Coast, and along the south shore from Gaspé to Cape Chatte. The right of salmon fishing is only held

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by a few favoured individuals, mostly farmers and traders, people who have influence, and who are comparatively well off. The cod fishing is controlled and maintained by a few large firms or outfitters, who really are the main sufferers when it fails, but herring fishing is the *poor man's fishery*, each man taking, curing and exporting his own fish, so that any failure in it is felt as a direct personal loss.

The smelt fishery was hardly up to an average. The spring seal hunt on the ice gave but a small return compared with the yield of a few years ago, owing to the low price of the oil but few vessels are now fitted out for the ice in March and April.

I beg to append synopses of the report of some of the local fishery officers.

## BONAVENTURE SUBDIVISION.

*Officer George Forrest* reports the fishing generally as having been satisfactory in his district, that is the upper part of the Bay Chaleur. Spring and fall herring were abundant in some localities, but short in others. The salmon net fishing was good, as was also the angling. The summer cod fishing was poor, but late in the season the catch improved, and owing to the open fall the fishing continued right up to the end of November. The lobster fishing shows a steady decline. The fishing regulations were well observed.

## PORT DANIEL SUBDIVISION.

*Officer F. X. Chapados* reports a slight improvement in his district in the catch of salmon over the previous season. The cod fishing also shows a gain. Spring herring were taken abundantly, but the catch of fat fall herring was almost nil.

## GASPE SUBDIVISION.

*Officer Walter Langlois* reports the catch of salmon in nets in his district, which extends from Malbaie to Faine Point, as showing an increase of about 50,000 lbs. over the yield of 1900. Herring was very scarce. Cod struck early, on the 10th May, though it was the 25th before the returns began to be heavy. The fishing was good up to September, when it came to an abrupt end owing to rough weather, though the bait (squid) was abundant.

## MONTS LOUIS SUBDIVISION.

*Officer Louis Létourneau* reports only one lobster cannery as being operated in his district, and it is not the intention of the owner to open next season. Salmon struck about the 15th May and were fished up to the 15th July, the yield being good. Herring struck on the 15th April. In the eastern part of Mr. Letourneau's district, they were scarce all season; they were fairly abundant, however, further to the west, when the fishermen found that by sinking their nets in from 15 to 25 fathoms they made good hauls. Owing to the general scarcity of fat herring, the price ran up, and those who had them for sale got from \$4.25 to \$5.25 per barrel.

Cod struck on the 15th May and were abundant all the season; not for thirty years has the fishing made a better return; the price was high, and good times prevailed with the fishermen.

No mackerel was taken, and the yields of halibut and turbot, which were taken in from 50 to 80 fathoms, were small. As cod were abundant in shoal water, 20 to 30 fathoms, the fishermen did not go out into deep water. Squid were very abundant all fall; this was one of the reasons why herring were scarce or only to be caught in deep water. The season was a very dry one, and the crops suffered in consequence.



## GODBOUT SUBDIVISION.

*Officer N. A. Comeau* reports that salmon were unusually abundant, about double the average quantity having been taken, the catch being the highest on record. The net fishing began earlier than usual. The fish were large and the run was steady all through the season, which began on the 20th May and ended on the 10th July. Between these dates two heavy gales occurred, which caused a good deal of damage to nets and gear. Cod were also abundant all through the season, and the yield was far above the average. Herring were scarce east of Point des Monts, but plentiful further west. No mackerel were seen at any point in Mr. Comeau's district. Halibut show a slight increase. The winter seal hunt was about an average. Owing to the employment now being offered at the saw-mills and other new enterprises now being developed on the coast, the number of fishermen in the district has fallen, this is shown by a decrease in the number of men claiming the fishing bounty. The fishing regulations, and especially those regarding the Sunday close time, were well observed.

## MOISIE SUBDIVISION.

*Officer T. Migneault* reports salmon fishing as having begun on the 15th May and closed on the 20th July. The yield of this fishing amounted to slightly over 300,000 lbs., and this in spite of the fact that on the 9th and 15th June many of the sea coast fisheries were broken up and carried away by severe gales. The cod fishing was good, being 15 per cent better than in 1900, bait in the shape of squid, capelin and lance having been abundant all season. The catch of fat herring was much below the average. No mackerel were seen, and no foreign fishing vessels visited this part of the coast.

## MINGAN SUBDIVISION.

*Officer George DuBerger* reports an increase in the cod fishery at each of the stations in his district. The returns from the salmon netters show a catch which about doubled that of 1900. The lobster pack shows a considerable falling off. An arrangement has been arrived at between the Labrador Company and the resident fishermen by which the latter have acquired titles for their holding, and are allowed to cut fire wood on the Seigneurie.

## NATASHQUAN SUBDIVISION.

*Officer Scott* reports a smaller seal catch than usual. The ice was found much broken up, and the seals had taken to the water. The lobster pack has fallen off, only about one third the usual quantity having been put up. The salmon net fishing was good, the returns showing an increase of 25,000 pounds. Capelin struck the coast on the 24th May and held to the shore until the 24th July, consequently the summer cod fishery was a good one; owing, however, to rough weather, and a scarcity of bait, the fall cod fishery was a failure.

## BONNE ESPÉRANCE SUBDIVISION.

*Officer Blais* reports a good summer cod fishery after the passing of the ice; the salmon catch was below the average. The fall was exceedingly rough, four schooners having been driven ashore and wrecked during the month of October, fortunately there was no loss of life.

## MAGDALEN ISLANDS—SOUTH SUBDIVISION.

*Officer J. A. Chevrier* reports that the spring herring fishery was not a success, owing to the ice having jammed in Pleasant Bay for several weeks later than usual.

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forcing the schools of spawning herring, to go elsewhere; after the ice had gone several good hauls were made, but the great bulk of the herring had passed. The fat herring fishery in July and August was a failure. The lobster pack shows a falling off of 20 per cent as compared with 1900. There was no illegal lobster packing this season, as special guardians had been put on the lagoons.

The mackerel fishery was good, especially the summer fishery, but the prices ruled unusually low and the return to the fishermen has been small. The early cod fishery, was good, but owing to constant rough weather nothing was done in the fall. Mr. Chevrier is anxious that a cutter should be sent to the Magdalen Islands early in the season during the time of the spring herring fishery, as local fishermen are greatly hampered by the presence of so many foreign vessels, whose rapacity it is impossible for a local officer to control.

## MAGDALEN ISLANDS—NORTH SUBDIVISION.

*Officer Procul Chevrier* reports that the spring seal hunt made on the shore ice was good, 6,700 seals having been killed and hauled ashore. The spring herring catch was not as abundant as usual owing to the ice having held on shore long after the usual spawning season of the herring at the end of April. Mackerel struck about the 1st of June, and the fishery was a good one all through the season, the late or fat mackerel catch gave a return amounting to double an average fishery, but the price obtained was unusually low and the fishermen did not benefit greatly by it. The cod fishery was good, and more attention than usual was paid to it by local fishermen, the fact being that as the lobster fishery fails, more men are fitting out for the cod fishery.

Lobster packing began on the 6th May, and continued in some places up to the end of July, though many packers gave up early in that month. A few fines were imposed on fishermen for fishing in the lagoons where the setting of traps is prohibited. The lobster pack continues to show a steady decline.

The whole of the above is humbly submitted.

I have the honour to be, sir,  
Your obedient servant,

W. WAKEHAM,  
*Officer in charge of the Gulf Fisheries.*

REPORT ON THE FISHERIES OF THE SOUTH SHORE OF THE RIVER  
ST. LAWRENCE, FROM LEVIS TO CLAUDE RIVER, TOGETHER WITH  
REMARKS ON THE LOBSTER INDUSTRY OF GASPÉ AND BONA-  
VENTURE COUNTIES, DURING THE SEASON OF 1901, BY INSPEC-  
TOR N. LAVOIE, M.D.

L'ISLET, QUE., January 15, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—In transmitting the fishery statistics for the year 1901, of that part of my division extending from Point Lévis to Claude river, in the county of Gaspé, I beg to offer the following remarks.

The failure in almost every kind of fishing reported last year on that section of the coast extending from Lévis to L'Islet, was still more pronounced in 1901, with the single exception of bar-fish, which yielded about 3,000 lbs. more. There is a decrease in

sturgeon, eel, pickerel, whitefish and salmon fishing. Some stations did better than others, but on the whole, the result is far from profitable. The reason of this ill-success may be ascribed to the antiquated modes of fishing still used on this part of the coast, although it is only fair to say that boisterous weather, contrary winds, sawdust and mill rubbish had a considerable share in it.

From l'Islet to Sandy bay, fishing is considered to have been the worst experienced during the past twenty-five years. In the hope of better success and remembering the large catches of herring in past years, those fishermen who had sworn they would not set any more, went to great expenses in order to retrieve there previous losses by building new fisheries, but all this was of no avail as the herring fishery proved a complete failure in most places. The statistics show a falling off of nearly 3,000,000 lbs. Eel fishing shows a decline, and the same may be said of sardines. Salmon and trout fishing shared the same fate. The catch of sturgeon and shad amounted almost to nothing. Ten more belugas were killed at River Ouelle than in 1900.

From Sandy bay to Claude river, fishing was excellent, and prices so remunerative that the residents were amply secured against any possible wants during the winter. Most fishermen on this part of the coast are provided with engines of the most improved pattern; the number of herring gill-nets has more than doubled, and as a result, the quantity of fish caught considerably increased. In the memory of the oldest inhabitant, never were codfish seen in such abundance on this coast, especially at Méchins and Capucins. The quantity caught was simply enormous, some fishermen securing as much as 300 quintals of dry cod per boat. This abundance is ascribed to the unusually large schools of herring and squid which visited the coast, and to the non-appearance of white whales. Salmon and trout fishing were very fair. Some brush fisheries, where no salmon had been seen for years, caught as many as 100, and at stations where nets are used, the catch was double. The spawning bed in all salmon rivers are reported crowded with breeding fish. I was informed that 208 salmon had been caught with the fly in St. Anne des Monts river, and 80 in Matane river.

#### THE LOBSTER FISHERY OF BAY DES CHALEURS AND GASPE BAY.

On comparing this year's statistics with those of 1900, there will be noticed a falling off of 87 cases, and by comparison with those of 1899, a deficit of 386 cases. True there were about 2,000 traps less than in past seasons, but this fact is not sufficient to account for the deficiency, the more so, when it is remembered that in 1880, with half the present number of canneries and about one-half less traps, the total pack reached 9,345 cases. It is exceedingly difficult to ascribe precise reasons for the ill success of this fishery in past seasons, but putting aside the influence of local circumstances, I am decidedly of the opinion that a good deal of it must be attributed to the immoderate slaughter of lobsters. To my mind, it is evident that according to the best received notions of men of science and ichtiologists, no perceptible improvement of this fishery can be looked for until some equilibrium is established between the present modes of destruction and the reproductive powers of the lobster. These shell fish migrate regularly from deep water to shallows, in search of food and to obey the natural laws of reproduction. The number of eggs carried by a female lobster is comparatively small; their coming to maturity slow, and the growth of the young ones the same. Thus, the complete extinction of this valuable species must depend to a large extent on the greater or lesser number of traps scattered over the breeding grounds. A remedy is imperatively called for, and the packers themselves agree in saying that further restrictions are needed or the fishery is doomed. Individual opinions may differ, but every one admits that a remedy is needed. What that remedy should be, is another question. Some packers favour an entire closing up of the fishery for a longer or shorter period, but this, I apprehend, would mean sure ruin to fishermen and small packers. It might also injuriously affect local markets. Others suggest the granting of no more new licenses for five years at least, or a cessation of canning on June 10, instead of July 10. These suggestions have some good points to recommend them to favourable consideration. The bulk of operations is over by June 10, and it is between that date and the middle of July that storms are most frequent in the Bay des Chaleurs, and the greatest injury

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done traps and fishing gear. Some people favour a reduction of traps by two-thirds or three-fourths, allowing a maximum of only 250 traps to each fisherman. Lastly, others recommend the parking of female lobsters in ponds or inclosures during the months of May, June and July, where they would breed and be liberated in August. In this way, it is claimed that the eggs would be naturally hatched and a good supply of young lobsters secured. On this point, I may remark that Carleton is admirably situated for such a nursery, provided no packing is allowed there.

I have the honour to be, sir,  
Your obedient servant,

N. LAVOIE,  
*Inspector of Fisheries.*

REPORT ON THE FISHERIES OF THE WESTERN OR INLAND DIVISION  
OF QUEBEC, FOR THE YEAR 1901, BY INSPECTOR  
A. H. BELLIVEAU.

OTTAWA, February 15, 1901

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—The large district under my charge comprises all that part of the province of Quebec south-west of the River Saguenay and the county of Bellechasse.

For more convenience in establishing comparisons in the yield of fisheries with those of former years, the old subdivisions are mostly adhered to, even when supervised by different officers.

While it is most difficult to secure reliable data in fishery matters in these inland districts, I have endeavoured with the assistance of the local officers, to arrive at a fair estimate of the aggregate catch of fish in each district. At any rate, I do not believe our quantities exaggerated, as in many cases, all the capture by amateur fishermen for domestic use was not included in the given statements. Some fishermen, when questioned respecting their catch of fish, have really little notion of its aggregate, while others will intentionally deceive by gross exaggeration one way or the other.

None are more surprised at the result of the computation of a weekly catch multiplied by the number of months of the fishery season than the fishermen themselves. I know of individual fishermen in Lake St. Pierre, who ship to the Montreal market over fifteen thousand pounds of fish. If it was not to distinguish the various species, it would be easy to estimate the quantities marketed by the principal fishermen. To better enable the fishermen who are willing to attempt the keeping of an authentic record, I intend to provide them with memorandum books, suitably divided for their weekly catch of the whole fishing season. Where the interested parties are illiterate, their school children could keep such records, and even if only a few would comply, it would facilitate the officer's work in computing an average for the delinquents. The former reluctance of the suspicious fisherman to furnish accurate returns, fearing an increased license fee, has recently abated, especially since statistics are requested by one government while license-fees are exacted by another.

I can only repeat that, not only the fishes in my district are steadily declining, (as it now requires more implements to apparently keep up a diminished and inferior supply of the coarser grades of fish) but their size has decreased to such an extent that it is questionable, whether most of them should not be rejected and confiscated as immature fish. A visit on any Thursday morning to the Montreal fish markets, where fishermen

from Yamaska and Chateauguay congregate and dispose of their week's capture in a few hours, would soon convince any one of the exactness of the above remark. There, one may see sturgeons under twelve inches in length, and other species so small that it requires several to balance one pound. So much shortsightedness on the part of the fisherman, who captures such immature specimens, should be tolerated no longer, and the impunity of those who offer them for sale should also be checked.

A regulation should be enacted fixing a limit of minimum length or weight of all the different species of fish it is thought advisable to protect. Then it would require but few lessons to teach these improvident fishermen that confiscation of their entire catch awaits the offering for sale of any kind of immature fish. This step would also lessen the prevailing tendency of steadily decreasing the size of mesh of the different fishing implements.

As all these small fish are captured alive by the use of seines or verveux (hoop nets), the harm can safely be ascribed to the small mesh of the fishing engines now used by the greedy fisherman and tolerated by the authorities, although they are mostly unlicensed. Every fisherman around Lake St. Pierre takes license for one or two hoop-nets and then uses ten, fifteen, and in some cases even fifty. This mode of verveux fishing, which, if properly regulated, has its advantages, has been greatly abused of late. The principal objection to this fishing implement is the small mesh now tolerated in its construction. While our department were issuing the said licenses, the smallest mesh mentioned was two and a half inches extension measure, but at present as there is no mention of the mesh as a condition of the license, it has dwindled down to about three quarters of an inch, through which nothing escapes. The tarring and re-tarring also tends to diminish the size of these meshes. The longer the adoption of proper regulations to foster and popularize this mode of fishing is delayed, the harder they will be felt by the discontented individual who will have to submit to them sooner or later. Another objection is the way these hoop-nets are often set with long wings almost barring small channels for the purpose of capturing the parent fish returning to deep water after having spawned in the upper streams.

After having carefully examined this subject for the last three seasons, I am convinced that some stringent measures should be passed without delay and enforced after due notice is given to interested parties. These might be briefly summarized as follows :

The mesh of the wings and leaders not to be less than  $1\frac{1}{2}$  inch square and the mesh of the verveux proper  $1\frac{1}{2}$  inch square when in the water. The wings not to exceed ten or twelve feet in length. No verveux to remain set during the months of July and August. None to be ever set so as to bar the passage of fish to or from spawning grounds. Hoop-nets, improperly tarred, to be liable to seizure. Length of leaders as well as distances between each implement, to be settled by fishery officers on the spot. Finally, all such net found set without the license number or other mark of identification agreed upon, would be there and then liable to seizure and confiscation. The fishery officer should also be empowered to destroy any such confiscated article, when, in his judgment, it is better to do so, especially when these engines are of an illegal mesh.

In the inland district proper, from Quebec to the upper Ottawa, where the St. Lawrence with its enlargements known as lakes St. Pierre, St. Louis and St. François and their numerous and important tributaries form the principal waters, there has been a falling off in the aggregate value of the catch of fish of nearly \$20,000 as compared with that of the previous year.

While this decline is especially noticeable and was expected in Lake St. Louis where netting has been entirely prohibited, which would naturally diminish the total yield, but in Lake St. Pierre, fronting the counties of Yamaska and Richelieu, where the above conditions did not exist, the decrease is over 50 per cent. Notwithstanding what I have stated about immature fish and small meshed gear in this very district, I do not credit so large an actual decrease, as I am under the impression that the figures given me for the previous year were either slightly exaggerated or perhaps these incline somewhat the other way. The surplus value shown in Lake St. Francis may be attributed to the large catch of eels, especially on the Soulanges side, with night lines and even perhaps with the help of the spear. In previous years, these were not

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included in the returns, hence the apparent increase in waters where netting has been prohibited.

The Ottawa district, the most important tributary of the St. Lawrence, also indicates a betterment of about \$5,000 over last year. This is ascribed to better returns secured by the census officer in the upper waters of the county of Pontiac, where reliable data are very difficult to secure.

The little frost fish or tom cod was again scarce last year, especially in the vicinity of Three Rivers, fortunately some were taken lower down from Deschambault to Portneuf. The whole catch for that division is estimated at 20,000 bushels which is far from meeting the demand, and the supply has to be supplemented by the production of the Miramichi districts in New Brunswick.

In the other divisions, the yield of fish was an average one, with the exception of shad which seems to be steadily deserting its former haunts. The catch of that anadromous fish in my district is reckoned at less than ten thousand pounds, that is, only one-third of last year's yield, which was considered a poor season. The capture of sturgeon is also reported as much inferior to the previous one. Most of the other species such as bass, pickerel, pike and eels seem to have held their own.

In that part of my district extending from Quebec to the Saguenay, with the exception of the eel fisheries, which yielded fairly well at Isle of Orleans and Isle au Coudre, the other kinds of fish seem to be steadily falling off. A few salmon were caught in the weirs of Montmorency and Charlevoix counties.

In the Lake St. John district, the aggregate catch of the different kinds of fish exceeds that of the previous year. This may be attributed more to a careful collection of fishery statistics, than to an increased supply of fish. The local officers of that district had taken careful notes when collecting the same information for the Census bureau, and therefore these figures are more reliable than the previous ones which were more or less estimated. While only 31,000 lbs. of the famous ouananiche are reported as caught in those waters, the other kinds as pickerel, pike, perch and whitefish show fair increases as compared with the previous catch. There are a few net fishermen now licensed in Lake St. John, who somewhat increase the production of the coarse fish. The total yield of fish in this division is valued at nearly \$17,000 for the season of 1901.

Having mentioned the principal lakes of the Eastern Townships in connection with their fisheries in my last year's report, I will merely add that such an Order in Council as therein urged has been passed, prohibiting all netting in those beautiful sporting waters. This, it is hoped, will meet the approbation of all fair minded residents having at heart the protection of their attractive summer resorts.

Respectfully submitted,

A. H. BELLIVEAU,  
*Inspector of Fisheries.*

# PROVINCE OF QUEBEC—Gulf of St. Lawrence District.

RETURN Showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., and the Quantity and Value of Fish caught in the Province of Quebec, for the Year 1901.

## RESTIGOUCHE SUBDIVISION (Head of Tide to Magusha.)

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.						
		Vessels.			Boats.			Gill Nets.			Seines.			Trawls.	Herring, fresh, lbs.			Mackerel, fresh, lbs.	Number.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.		Value.					
1	<i>Bonaventure County.</i> Restigouche, (Quebec side) . . . . .			\$	25				20	4500	\$	4000			\$	30000	50	10000		

## BONAVENTURE SUBDIVISION (Magusha to Paspébiac Point.)

1	Magusha and Nouvelle.....				52	780	104	155	4000	3250						20000	250	5000	1
2	Carleton.....				180	2250	300	461	11000	7150						35000	500	10000	2
3	Maria.....				130	1800	260	316	7600	5400						50000	500	15000	3
4	New Richmond and Black Capes.....				88	1495	150	136	4100	1635						40000	350	10000	4
5	Capelin.....				180	2500	400	650	14300	6450						30000	700	15000	5
6	Bonaventure.....				320	4200	550	1142	20400	10525						16000	1500	20000	6
7	New Carlisle.....				46	650	75	80	1800	950						200	150	6000	7
8	Paspébiac.....				152	4100	280	157	3140	1900						600	550	12000	8
	Totals.....	6 304	5200 34		1118	17775	2119	3097	66340	37260						169800	4500	99000	
																			5300

## PORT DANIEL SUBDIVISION (Paspébiac Point to Point Macquereau.)

1	Hopetown.....				63	1890	88	80	1060	954						3000	200		3000	1
2	Nouvelle.....				81	2430	147	75	1500	1200						2250	350		4000	2
3	Shigawake.....				50	750	64	80	1440	1112						2200	280		1500	3
4	Port Daniel.....				184	5520	274	300	6000	3600						30000	1000		9000	4
5	Gascons.....				193	7720	268	400	7200	6400						8400	1200		1000	5
	Totals.....	1 25	600 4		571	18310	841	935	17200	13306						43800	3050		18500	

## SESSIONAL PAPER No. 22

## RETURN showing the Kinds and Quantities of Fish, &amp;c.—Province of Quebec—Continued.

## RESTIGOUCHE SUBDIVISION (Head of Tide to Magnasha.)

Number.	Districts.	KINDS OF FISH.													FISH PRODUCTS.		TOTAL VALUE.	Number.	
		Lobsters, pre- served in cans lbs.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues & sounds, lbs.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Reels, lbs.	Tom Cod or Frost Fish, lbs.	Squid, lbs.	Fish oil, galls.	Fish as bait, lbs.			Fish as manure, bbls.
1	<i>Bonaventure County.</i> Restigouche, Quebec side.	25								9000	130000		50000				200	\$ 19,425 00	1

## Bonaventure County.

## BONAVENTURE SUBDIVISION (Magnasha to Paspébiac Point.)

1	Magusha and Nouvelle.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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2-3 EDWARD VII., A. 1903

RETURN showing the Number, Tonnage and Value of Vessels and Boats and the

County

GRAND RIVER SUBDIVISION

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.							
		Vessels.				Boats.		Gill-nets.			Seines.		Trawls.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.
	<i>Gaspé County.</i>			\$		\$			\$			\$		\$	
1	Newport. ....				155	6000	395	345	6900	1775	3	90	50	121	2300
2	Pabos. ....				75	2040	155	111	2220	620	5	140	130	20	200
3	Grand River.....				123	4675	410	408	9000	2704	3	115	40	92	1765
4	Cape Cove.....				155	6838	418	396	9065	3200	8	290	235	86	1165
5	Percé and Bonaventure Island...				145	4130	263	230	4540	1900	4	130	80	18	140
6	Corner of Beach.....				30	750	62	68	2260	1152	9	180	180	2	20
7	Malbaie and Barachois .....				279	12500	284	70	3440	3320	17	800	730	.....	.....
	Totals .....				962	36933	1987	1628	37425	14671	49	1745	1445	339	5490

## GASPÉ BAY SUBDIVISION

1	Point St. Peter. ....	1	52	1200	10	75	1800	100	100	2700	1800	4	120	160		
2	Chien Blanc to Sandy Beach. ....					265	7784	212	210	6700	5000	12	800	450		
3	Gaspé North and South. ....					45	500	52	110	4425	3100	25	1000	975		
4	Peninsula and Little Gaspé. ....					70	900	90	115	3875	3154	2	40	13		
5	Grande Grève to Ship Head. ....					80	2050	85	75	2000	1509	7	180	195		
6	Cape Rosier to Jersey Cove. ....					215	4650	275	105	3279	1100	4	80	65		
7	Griffin Cove. ....					130	2050	220	195	3000	900	1	25	10		
8	Fox River and Little Fox. ....					205	3100	240	230	4500	1300	5	175	85		
9	Little Cape to Echourie. ....					75	929	80	65	1345	400	3	120	100		
10	Point Jaune to Fame Point. ....					50	460	61	30	520	150	2	80	70		
	Totals. ....	1	52	1200	10	1240	24214	1415	1235	32344	18404	65	2320	2123		





SESSIONAL PAPER No. 22

RETURN showing the Number, Tonnage and Value of Vessels, Boats and Fishing Materials, &amp;c.—Province of Quebec—Continued.

## County of Gaspé—Concluded.

## MAGDALEN ISLANDS SUBDIVISION—SOUTH.

Districts.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.												TOTAL VALUE OF ALL FISH.	Number.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Vessels.			Boats.			Gill Nets.		Seines.		Trap Nets.		Herring, salted, brls.	Herring, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, dried, cwt.	Halibut, lbs.	Eels, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.			Seal skins, No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.																Number.	Value.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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## MAGDALEN ISLANDS SUBDIVISION—NORTH.

1 All Right Island.....	2	40 400	16 126	2520	334	663	14080		3564				21400	2306		4343	58032	961	80															96 274 90	1
2 Grand Entry.....	1	12 300	4 28	600	74	43	1260		344				51800	497		410	11120	246	25															34 234 60	2
3 Grosse Isle.....	1	12 300	4 28	600	74	43	1260		344				51800	497		410	11120	246	25															34 234 60	2
4 Bryon Island.....	1	12 300	4 28	600	74	43	1260		344				51800	497		410	11120	246	25															34 234 60	2
5 Point Loup.....	1	12 300	4 28	600	74	43	1260		344				51800	497		410	11120	246	25															34 234 60	2
Totals.....	3	62 700	20 187	3785	484	722	15860		4034				12 6200	3142		5291	244280	1560	132															163 966 80	5

2-3 EDWARD VII., A. 1903

RETURN showing the Number, Tonnage and Value of Vessels and Boats

County of

GODBOUT SUBDIVISION

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.									
		Vessels.				Boats.		Gill Nets.			Seines.		Trawls Weirs.				
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.
	<i>Saguenay County.</i>			\$			\$			\$			\$		\$		\$
1	Tadoussac . . . . .					7	230	9	5	500	250					1	30
2	Bergeronnes . . . . .					4	80	6	7	420	420					2	100
3	Escoumains . . . . .					7	140	9	10	600	600					3	120
4	Mille Vaches . . . . .					5	100	10	8	480	480					3	120
5	Portneuf . . . . .					5	100	10	9	540	540					3	120
6	Colombiers to Sault au Cochon . . . . .					4	80	4	4	320	320					1	40
7	Bersimis . . . . .					7	140	8	14	700	700					4	200
8	Pointe aux Outardes . . . . .	1	11	150	2	11	220	7	16	480	480					3	150
9	Manicouagan . . . . .	1	20	200	2	7	140	6	4	210	210						
10	Godbout . . . . .	1	9	120	2	26	520	23	34	1555	1545	2	120	150	1	25	
11	Point de Monts . . . . .					12	240	12	23	1090	1090	1	60	75	1	25	
12	Trinity Bay . . . . .					22	440	19	29	1600	1600				1	25	
13	Cariboo Islands . . . . .	1	15	175	2	28	560	22	26	1170	1170	1	45	50	1	25	
14	Egg Isd. & English Point . . . . .					46	920	51	30	900	900	1	60	75			
15	Pentecost to Jambons . . . . .	1	36	300	3	14	280	15	7	180	180	1	40	65			
	Totals . . . . .	5	91	945	11	205	4190	217	226	10735	10485	6	325	415	4	100	20 870

## MOISIE SUBDIVISION

1	Ste. Marguerite . . . . .					5	350	10	8	730	700	1	35	75		
2	Carousel Island . . . . .	1	20	300	4	4	300	8	12	845	680	1	4	90		
3	Seven Islands Bay . . . . .	1	18	500	3	25	2500	50	15	1525	850	2	100	17		
4	Moisie . . . . .	1	50	800	5	21	2000	60	57	5249	5200	3	125	135		
	Totals . . . . .	3	88	1600	12	55	5150	128	92	8349	7430	7	300	475		

## MINGAN SUBDIVISION

1	River aux Graines . . . . .					14	700	28				3	90	75		
2	Chaloupe . . . . .					11	550	23				3	120	125		
3	Sheldrake . . . . .					28	1400	56	1	150	75	5	300	300	2	1000
4	Thunder River . . . . .					49	2450	93	2	200	100	10	400	400	2	750
5	Dock and Rich Point . . . . .					7	350	16				2	40	75		
6	Jupitagan . . . . .					5	250	9	1	100	100	4	130	170		
7	Magpie . . . . .					51	2450	145	2	200	200	10	400	400		
8	St. John's River . . . . .	1	19	200	05	61	3050	125	7	2000	1500	6	240	300		
9	Long Point . . . . .					24	1200	50	2	200	200	3	120	120		
10	Mingan and Romaine . . . . .					2	125	3	3	400	300	1	36	25		
11	Esquimaux Point . . . . .	4	172	2000	34	103	5150	260	12	600	400	15	600	1400	3	600
12	LaCorneille and Watshee-shoo . . . . .					4	250	8	4	400	300					
13	Piashter Bay . . . . .					18	1000	30	18	360	180	2	80	60		
	Totals . . . . .	5	191	2200	37	377	19025	846	52	4610	3355	64	2556	3450	7	250 15 172

## SESSIONAL PAPER No. 22

and the Kinds of Fish, &amp;c.—Province of Quebec—Continued.

## Saguenay,

Tadoussac to Jambons.

KINDS OF FISH.															TOTAL VALUE OF ALL FISH.		Number.	
Salmon, fresh, lbs.	Salmon, salted, brls.	Herring, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Tongues and Sounds, brls.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Sturgeon, lbs.	Squid, brls.	Coarse and Mixed Fish, brls.	Fish Oil, galls.	Fish as bait, brls.	Fish as Manure, brls.	Seal Skins, No.	\$		cts.
24000											12	650			273	5,360	25	1
8000											13	51			17	1,662	55	3
6000											10					1,220	00	4
15000																3,000	00	5
11000								600			14	210			70	2,408	50	6
15000							500					399			133	3,335	95	7
		15		34		350	150	2000	2200					20		341	00	8
2000				3			150	1500				174			58	758	70	9
42261		131		115		2000	750					173	20	15	41	9,851	85	10
21834		50		50		4050						413	5		131	5,456	95	11
39953		16		220		2200	500			7		150	40			9,337	60	12
21000		8		361		3150	200			40		275	50	15	10	6,348	50	13
14163		85		892	5	1450	350			70		500	100	35	7	7,676	85	14
500		150		352			300			10		200	50			2,313	00	15
220711	455			2027	5	13200	2750	4100	2200	127	49	3195	265	85	740	58,981	70	

Jambons to Pigou.

4700				235	2	350	442					236	40		12	2,125 00	1
		48		233	2	525						229	53		29	1,380 95	2
26940		75	229	1042	4	850						1084	200	100	84	10,807 00	3
253300	100			1233	3	1334	825					1315	250	75	115	58,288 65	4
284940	100	123	229	2743	11	3059	1267					2864	543	175	240	72,601 60	

Pigou to Wataheeshoo.

				725		2600	400			30		675	36	50	7	3,610 25	1
				870	4	4350	550			28		865	43	50	5	4,477 25	2
				3838		900	600			40		3820	291	100	7	17,468 25	3
		11		3550	11	8150	1000			45		3300	277	150	10	17,138 00	4
		12		1170		1700	800			31		824	58	25	8	5,590 70	5
																	6
																	7
9600				3800	5	3750	600			45		3827	300	150	9	10,469 35	8
73042				4850	7	7900	2500			50		4833	500	200	13	37,634 55	9
		12		2050		6000				30		2100	200	75	17	10,088 75	10
12000				52		100	2000			2		500	10		150	3,178 50	11
	3	160	7200	6130	7	600				60		6000	750	100	350	30,427 50	12
																	13
	42			5700	100		1000					150	20		30	2,382 50	
				2160	60		300					180	50		30	868 50	
94642	96	160	15060	27195	34	36050	9750			361		27074	2535	900	636	152,334 10	

2-3 EDWARD VII., A. 1903

## RETURN showing the Number, Tonnage and Value of Vessels, Boats

## NATASHQUAN SUBDIVISION

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.					
		Vessels.			Boats.			Gill Nets.		Seines.		Trap Nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.
							\$			\$			\$
1	Watsheeshoo .....				7	300	7						
2	Pashasheebco .....				7	300	13						
3	Agwanus .....				26	3600	60	25	500	380	4	200	200
4	Mission Island .....				3	80	3						
5	Natashquan .....	3	100	2000	15	65	6000	72	90	1700	1400	8	400
	Totals .....	3	100	2000	15	108	10280	155	115	2200	1780	12	600

## ROMAINE SUBDIVISION

1	Kegashka. ....				10	500	18	10	500	300	3	120	100	
2	Washeecootai. ....				2	50	2	6	300	200				
3	Romaine .....				10	350	9	10	600	400	2	80	75	1
4	Coacoachoo .....				12	500	20	3	250	200	1	40	40	1
	Totals .....				34	1400	49	29	1650	1100	6	240	215	2

## ST. AUGUSTIN SUBDIVISION

1	Wolf Bay. ....				5	400	6	3	120	100	1	40	50	
2	Etamamu .....				2	100	2	5	500	400				
3	St. Mary's Islands. ....				6	300	6	4	400	300				
4	Harrington. ....				50	3000	100	30	1500	1000	12	1500	750	6
5	Little Meccatina .....				10	500	15	5	500	400	2	200	200	3
6	Whale Head .....				30	600	30	20	2000	750	3	300	250	6
7	Mutton Bay. ....				60	1200	96	28	2500	1000	13	1600	800	8
8	Old Port and La Tabatiere .....				25	1500	50	20	2000	1000	12	1400	750	4
9	Big Meccatina. ....				20	750	25	10	1000	700	3	300	300	3
10	Fonderie à Pectau to St. Augustin .....				30	600	45	25	3000	1500	3	120	120	
11	Point à Giroux to Canso .....				10	300	8	10	1000	500	2	80	80	2
12	Chicatica. ....				5	100	6	3	500	250	1	40	40	2
	Totals .....				253	9860	389	163	15020	7900	52	5580	3340	34

## SESSIONAL PAPER No. 22

## and Kinds of Fish, &amp;c.—Province of Quebec—Continued.

(Wataheeshoo to English Point).

KINDS OF FISH.														TOTAL VALUE OF ALL FISH.	Number.
Salmon, fresh, lbs.	Salmon, smoked, lbs.	Salmon, salted, brls.	Herring, salted brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Halibut, lbs.	Trout, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Seal skins, number.		
	1440			4080				250						\$ cts.	
				3900										1,129 00	1
		24			2000						2200	250	40	780 00	2
				1440										9,445 00	3
70000		10	90		6200			400			6200	600	180	288 00	4
70000	1440	34	90	9420	8200			650			8400	850	220	42,335 00	5
														53,977 00	

(English Point to Coacoachoo).

		10	10	2400	700		1200	1000			550	100	25	4,036 25	1
		8						1500						270 00	2
		12	15	1500	300			1200			250	50	30	2,047 50	3
		3	10	9600	300			300			245	250	15	3,702 25	4
		33	35	13500	1300		1200	4000			1045	400	70	10,056 00	

(Coacoachoo to Chicatica).

		5	10	2880	25					200	10	60		941 00	1
		14						1000						410 00	2
		5		1000	50			700			500	10	150	897 50	3
			75	4800	4000						3000	500	60	18,985 00	4
		6		480	500						400	50		2,381 00	5
		20		14400	1000			800			1200	200	100	8,045 00	6
		25	40	500	4500						4000	550	175	20,878 75	7
		15	25		700						4500	70	950	5,767 50	8
		5	250	500	1000						1250	150	150	5,962 50	9
		50			150			5000			700	25	200	2,347 50	10
		12		2500	120			2000			300	20	75	1,573 75	11
		6	25	400	300						250	60	10	1,647 50	12
		163	425	27960	12345			9500			16300	1645	1930	69,837 00	



2-3 EDWARD VII, A. 1903

RETURN showing the Number, Tonnage and Value of Vessels, Boats

BONNE ESPERANCE SUBDIVISION

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.										
		Vessels.				Boats.		Gill Nets.			Seines.		Trap Nets.	Trawls.				
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.		
				\$			\$				\$			\$		\$		
1	Rocky Bay and Lydias Cove				6	270	8	7	210	140	1	35	75	2	500			
2	Old Fort—Burnt Island..	1	22	800	3	28	1375	39	4	200	100	3	105	210	7	2750	4	24
3	Bonne Esperance.....	1	99	3000	8	59	2950	82	18	900	900	4	350	150	16	6400		
4	Pidgeon Island and St. Pauls River.....	2	77	2300	11	12	550	11	16	800	600	2	120	150	4	1600		
5	Stick Pt. and Gruchys Pt				15	750	30	4	200	100	2	100	155	3	1200			
6	Salmon Bay.....				30	1375	40	2	100	40	8	400	600	8	3200			
7	Little Fishery and Five Leagues.....				10	425	15	4	200	100	2	75	150	2	700			
8	Middle Bay and Belles Amours.....				18	900	36	1	50	25	2	75	150	2	800			
9	Bradore.....				38	980	70				7	535	1100	19	7600	2	12	
10	Longue Pointe.....				25	1000	40				1	50	75	7	2800			
11	Greenly Island.....				30	1500	60				4	400	1800	6	2400	30	300	
	Totals .....	4	198	6100	22	271	12075	431	56	2660	2005	36	2245	4615	76	29950	36	336

ANTICOSTI

1	Baie Ste Claire .....				13	520	20	15	300	150	2	100	80			.....
2	Strawberry Cove.....				16	640	33	25	500	250	2	100	75			.....
3	Shallop Creek.....				2	50	2	3	170	100						.....
4	Fox Bay.....				18	360	20	15	600	300	3	150	100	4	2000	5 100
	Totals .....				49	1570	75	58	1570	800	7	350	255	4	2000	5 100

## SESSIONAL PAPER No. 22

## and Kinds of Fish, &amp;c.—Province of Quebec—Continued.

(Chicatica to Blancs Sablons).

KINDS OF FISH.														TOTAL VALUE OF ALL FISH.	Number.
Salmon, fresh, lbs.	Salmon, smoked, lbs.	Salmon, salted, brls.	Herring, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Halibut, lbs.	Trout, lbs.	Squid, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Seal skins, No.		
		15	40		192			600		395	30		100	1,501 50	1
		2			1721			2000		1630	100		75	7,846 75	2
		20			9000					8250	300			39,225 00	3
		44	36		1160			800		1100	100			6,004 00	4
		9	28		1000			600		930	100			4,760 00	5
		10	40		3117					2990	200		25	14,006 25	6
		6			547			300		500	50			2,533 00	7
		5	57		1694			100		1640	102			7,731 00	8
		5	14		5792			600		5925	350		195	25,905 25	9
		1	15		1300		200	100		1265	100		285	6,190 75	10
		2			5000					4280	375			21,876 50	11
		119	230		30529		200	5100		28905	1805		680	137,580 00	

## ISLAND.

		50		500		3000			250	100	100		2,775 00 1
		50		600		2800			300	100	100		3,170 00 2
	10												150 00 3
			14400							2000			31,800 00 4
	10	100	14400	1100		5800			550	2200	200		37,895 00

RECAPITULATION.

Showing the Number of Vessels and Boats, Nets and all Fishing Materials, &c., in the Gulf Division, Province of Quebec, for the year of 1901.

COUNTY OF BONAVENTURE.

DIVISIONS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIAL.										
	Vessels.			Boats.			Gill Nets.		Seines.		Trap Nets.		Trawls.		Weirs.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
1 Restigouche.....	6	304	5200	34	25	500	80	20	4500	4000	146	4750	4455	109	1040	1	1
2 Bonaventure .....	1	25	600	4	571	18310	841	935	17200	13306	62	1680	2344	322	5744	2	2
3 Port Daniel.....	7	329	5800	38	1714	36586	3040	4052	88040	54566	208	6430	6799	431	6784	3	3
Totals.....																	

COUNTY OF GASPÉ.

1	Grand River.....	1	52	1200	10	962	36933	1987	1628	37425	14671	49	1745	1445	339	5490	1	1
2	Gaspé Bay.....					1240	24214	1415	1235	32344	18404	65	2320	2123			2	2
3	Mont Louis.....					351	9420	516	620	16620	10560	7	210	350			3	3
4	Ste. Anne des Monta.....					272	4569	373	325	8095	7286						4	4
5	Magdalen Islands.....	2	25	600	8	352	16640	933	2044	41040	12264	13	1850	4250	1	500	5	5
6	" North.....	3	52	700	20	187	3785	484	722	15860	4034				12	6200	6	6
	Totals.....	6	129	2500	38	3374	95561	5728	6585	113394	67228	134	6125	8168	13	6700	349	5690

## SESSIONAL PAPER No. 22

RECAPITULATION, Showing the Number of Vessels and Boats, Nets, &c., Gulf Division, Province of Quebec—*Con.*  
COUNTY OF SAGUENAY.

DIVISIONS.		FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIAL.												
		Vessels,			Boats.			Gill Nets.		Seines.		Trap Nets.		Trawls.		Weirs.				
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.		
1	Godbout	5	91	945	11	205	4190	217	226	10735	10485	6	325	415	4	100	20	870	1	
2	Moisie	3	88	1600	12	55	5150	128	92	8349	7430	7	300	475	15	172	2	870	2	
3	Mingan	6	191	2200	37	377	19025	846	52	4610	3353	64	2556	3450	7	2350	4	870	3	
4	Natashquan	3	100	2000	15	108	10280	155	115	2200	1780	12	600	600	15	172	4	870	4	
5	Romaine	4	198	6100	22	271	12075	431	56	2860	2005	36	2245	4615	76	29950	7	870	5	
6	St. Augustin	4	198	6100	22	271	12075	431	56	2860	2005	36	2245	4615	76	29950	7	870	6	
7	Bonne Esperance	4	198	6100	22	271	12075	431	56	2860	2005	36	2245	4615	76	29950	7	870	7	
8	Anticosti	4	198	6100	22	271	12075	431	56	2860	2005	36	2245	4615	76	29950	7	870	8	
Totals		20	668	12845	97	1352	63040	2290	791	46794	34655	190	12196	13365	123	48700	60	708	20	870

## GRAND TOTAL FOR GULF DIVISION.

1	County of Bonaventure	7	329	5890	38	1714	36585	3040	4052	88040	54566	208	6430	6799	431	6784	20	870
2	Gaspé	6	129	2500	38	3374	95561	5728	6585	113384	67228	134	6125	8168	13	6700	349	5690
3	Saguenay	26	668	12845	97	1352	63040	2290	791	46794	34655	190	12196	13365	123	48700	60	708
	Grand total	33	1126	21145	173	6440	195186	11058	11428	248218	156449	532	24751	28332	136	55400	840	13182

## RECAPITULATION.

SHOWING the Number of Vessels and Boats, Nets and Fishing Materials, &amp;c.—Gulf Division, Province of Quebec—Continued.

## COUNTY OF BONAVENTURE—Continued.

DIVISIONS.	FISHING GEAR OR MATERIALS— <i>Con.</i>				LOBSTER PLANT.				OTHER FIXTURES USED IN FISHERIES.								VALUE OF WHOLE FISHING GEAR.	Number.	
	Smelt Nets		Hand Lines.		Canneries.		Traps.		Number of hands employed.	Freezers and Ice Houses		Smoke and Fish Houses.		Piers and Wharfs.		Tugs Steamers and smacks.			
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.		Number.	Value.	Number.	Value.	Number.	Value.	Number.			Value.
1 Restigouche .....	20	1800	3110	1555	3	1300	2900	1650	36	33	2225	343	19755	2	10000	.....	.....	6,300	1
2 Bonaventure .....	.....	.....	4250	1275	9	2200	10700	5700	164	11	2200	132	4750	.....	.....	.....	.....	102,215	2
3 Port Daniel .....	3	180	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	150	56,759	3
Totals .....	23	1980	7360	2830	12	3500	13600	7350	200	44	4425	474	24505	2	10000	1	150	165,274	

## COUNTY OF GASPE—Continued.

1 Grand River .....	1	20	4101	1544	14	4700	14600	5630	229	16	1920	157	44730	4	3500	...	...	120,783	1
2 Gaspé Bay .....	...	...	3400	1130	7	2300	2900	1150	36	3	1500	54	25500	20	12500	...	...	90,021	2
3 Mont Louis .....	...	...	1025	2000	1	1000	2000	1000	6	10	1400	9	3700	2	1000	...	...	30,430	3
4 Ste. Anne de Monts .....	...	...	682	682	22	10245	40490	24280	517	5	30	...	...	...	...	...	...	12,676	4
5 Magdalen Island .....	...	...	1995	566	61	19805	38030	22246	836	11	5000	...	...	10	9500	2	300	84,145	5
6 " North .....	...	...	990	449	61	19805	38030	22246	836	...	...	...	...	19	8600	4	525	66,540	6
Totals .....	1	20	12193	6347	105	38050	98020	54506	1024	45	9850	220	73930	55	35100	6	825	404,495	

SHOWING the Number of Vessels and Boats, Nets and Fishing Materials, &c.—Gulf Division, Province of Quebec—Continued.

COUNTY OF SAGUENAY--Continued.

DIVISIONS.	FISHING GEAR OR MATERIALS—Con.			LOBSTER PLANT.			OTHER FIXTURES USED IN FISHERIES.						VALUE OF WHOLE FISHING GEAR.					
	Smelt Nets Hand Lines.			Canneries.	Traps.		Number of hands employed.	Freezers and Ice Houses.		Smoke and Fish Houses.		Piers and Wharfs.		Tugs, Steamers and smacks.				
	Number.	Value.	Number.		Value.	Number.		Value.	Number.	Value.	Number.	Value.		Number.	Value.			
1	Godbout.....	1	40	324	107				53	1325	29	1350	1	250	1	600	20,677	
2	Moisie.....			224	51	1	25	100	50	1	550	45	3000	1	400		18,731	
3	Mingan.....			2221	1112	7	900	3000	1500	39	2	1000	119	20350	9	3100	64,814	
4	Natashquan.....			250	120	5	950	2500	1250	28		56	7000	19	3700	4	27,680	
5	Romaine.....			70	35	3	500	1600	800	26		9	200	7	125	5	5,175	
6	St. Augustin.....			910	455	17	1825	5900	2950	61		109	7550	58	4440	6	51,410	
7	Bonne Esperance.....	*156	*5935	1740	537							54	4650	74	10725	7	78,928	
8	Anticosti.....			172	75	1	3000	4000	2000	40	1	300	4	900	2	1300	19,300	
	Totals.....	157	5975	5901	2492	34	7200	17100	8550	197	57	3175	425	51300	171	24040	2	284,715

GRAND TOTAL FOR GULF DIVISION.																			
1	County of Bonaventure.....	23	1980	7360	2830	12	3500	13600	7350	290	44	4425	474	24505	2	10000	1	150	105,274
2	" " Gaspé.....	1	20	12193	6367	105	38050	98020	54506	1624	45	98500	220	73930	55	35120	6	825	404,405
3	" " Saguenay.....	157	5975	5901	2492	34	7200	17100	8550	197	57	3175	425	51300	171	24040	2	7600	284,515
	Grand total.....	181	7975	25454	11689	151	48750	128720	70406	2021	146	17450	1119	149735	228	69140	9	8975	854,284

\* Seal nets.

## RECAPITULATION.

SHOWING the Kinds, Quantity and Value of Fish caught in the Gulf Division, Prov. of Quebec, for the year 1901—Continued.

COUNTY OF BONAVENTURE—Continued.

Number.	DIVISIONS.	KINDS OF FISH.												Number.		
		Salmon.		Herring.		Mackerel.		Lobsters.		Cod.		Haddock.				
		Fresh, lbs.	Smoked, lbs.	Salted, brls.	Fresh, lbs.	Smoked, lbs.	Fresh, lbs.	Salted, brls.	Preserved, in cans, lbs.	Fresh in shell, cwt.	Dried, cwt.	Tongues and sounds, brls.	Fresh, lbs.		Dried, cwt.	Hake, dried, cwt.
1	Restigouche	30000			50	10000				25	10740	24	34000	210	300	1310
2	Bonaventure	169800			4500	99000	70000		12000	45	13200	58		1100		
3	Port Daniel	43800			3030	4000	18500		60936							
	Totals	243600			7580	11300	88500	5500	72936	70	23940	82	34000	1310	300	

## COUNTY OF GASPE—Continued.

|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

SESSIONAL PAPER No. 22

## RECAPITULATION.

Showing the Kinds, Quantity and Value of Fish caught in the **Gulf Division, Prov. of Quebec**, for the Year 1901—*Continued.*  
**COUNTY OF SAGUENAY—Continued.**

KINDS OF FISH.																
DIVISIONS.	Salmon.		Herring.		Mackerel.		Lobsters.		Cod.		Haddock.		Hake, dried, cwt.			
	Fresh, lbs.	Smoked, lbs.	Salted, brls.	Fresh, lbs.	Smoked, lbs.	Fresh, lbs.	Salted, brls.	Preserved, in cans, lbs.	Fresh in shell, cwt.	Dried, cwt.	Tongues and sounds, brls.	Fresh, lbs.		Dried, cwt.		
Number.																Number.
1	Godbout.....	220711			455									2027	5	1
2	Moisie.....	284940			123									2743	11	2
3	Mingan.....	94642			160									27195	34	3
4	Nataashquan.....	70000	1440		90									8200		4
5	Komaine.....				33									13500		5
6	St. Augustin.....				163									1300		6
7	Bonne Esperance.....				425									12345		7
8	Anticosti.....				230									30529		8
	Totals.....	670253	1440		100									1100		
					1618									85439	50	
GRAND TOTAL FOR GULF DIVISION.																
1	County of Bonaventure.....	243600			7580	113000	88500	5500						23940	82	300
2	" ".....	236350			18404	30800	1500							116825	126	213
3	" ".....	670253	1440		1618									85439	50	2
	Grand totals.....	1150283	1440		27602	143800	90000	5500	12424	825171	70	226204	258	34000	3632	513





## COUNTY OF SAGUENAY—Continued.

DIVISIONS.	KINDS OF FISH—Continued.												TOTAL VALUE.	Number.
	Halibut, lbs.	Trou, lbs.	Smelte, lbs.	Sturgeon, lbs.	Eels, lbs.	Tom cod or frost fish, lbs.	Squid, lbs.	Coarse and mixed fish, lbs.	Fish oil, galls.	Fish as bait, lbs.	Fish as manure, lbs.	Seal skins, No.		
1 Godbout.	13200	2750	4100	2200			127	49	3195	265	85	740	58,981 70	1
2 Moisie.	3059	1267							2864	543	175	240	72,601 60	2
3 Mingan.	36050	9750					361		2707 4	2535	900	636	152,334 10	3
4 Natashquan		650							8400	850		220	53,977 00	4
5 Romaine	1200	4000							1045	400		70	10,056 00	5
6 St. Augustin		9500							16300	1645		1930	69,837 00	6
7 Bonne Esperance.	200	5100							28905	1805		680	137,580 00	7
8 Anticosti.	5800								550	2200	200		37,895 00	8
Totals	59509	33017	4100	2200			488	49	88333	10243	1360	4516	593,262 40	

**GRAND TOTAL FOR GULF DIVISION.**

1	County of Bonaventure.....	20550	60100	272000	73	71500	830	14170	5754	81200	282,514
2	" " Gaspe.....	63270	8200	116900	114	114	3133	16206	24281	4860	1,006,912
3	" " Saguenay.....	59500	33017	4100	2200	2200	488	88353	10243	1360	593,262
	Grand total.....	145320	101317	392700	2200	2200	4451	218709	40288	87420	1,881,689
					187	71500				15416	35

## RECAPITULATION.

STATEMENT showing the Yield and Value of Fisheries of the Gulf Division, P.Q.,  
for the Season of 1901.

Description.	Quantity.	Price.		Value.
		\$	cts.	
Salmon, fresh in ice .....	Lbs. 1,150,283	0	20	230,056 60
" smoked.....	" 1,440	0	20	288 00
" salted.....	Brls. 555	15	00	8,325 00
Herring ".....	" 27,602	4	00	110,408 00
" fresh.....	Lbs. 143,800	0	01	1,438 00
" smoked.....	" 90,000	0	02	1,800 00
Mackerel, fresh.....	" 5,500	0	12	660 00
" salted.....	Brls. 12,424	15	00	186,360 00
Lobsters, canned.....	Lbs. 825,171	0	20	165,034 20
" fresh (or alive).....	Cwt. 70	5	00	350 00
Cod, salted.....	" 226,204	4	00	904,816 00
" tongues and sounds, salted.....	Brls. 258	10	00	2,580 00
Haddock, fresh.....	Lbs. 34,000	0	03	1,020 00
" salted.....	Cwt. 3,532	3	00	10,596 00
Hake ".....	" 513	2	25	1,154 25
Halibut ".....	Lbs. 145,329	0	10	14,532 90
Trout ".....	" 101,317	0	10	10,131 70
Smelts ".....	" 392,700	0	06	19,635 00
Sturgeon ".....	" 2,200	0	06	132 00
Eels ".....	Brls. 187	10	00	1,870 00
Tommy cod.....	Lbs. 71,500	0	05	3,575 00
Squid.....	Brls. 4,451	4	00	17,804 00
Coarse and mixed fish.....	" 49	2	00	98 00
Fish oils.....	Galls. 218,709	0	30	65,612 70
Fish as bait.....	Brls. 40,288	1	50	60,432 00
Fish as manure.....	" 87,480	0	50	43,710 00
Seal skins.....	No. 15,416	1	25	19,270 00
Total value for 1901.....				1,811,689 35
" " 1900.....				1,645,592 65
Increase for 1901.....				236,096 70

SESSIONAL PAPER No. 22

## RECAPITULATION

SHOWING Number of Men, Vessels and Boats, and Value of Material Employed in  
Gulf Division Fisheries, Season of 1901.

Description.	Value.
	\$ cts.
33 vessels of 426 tons, manned by 173 men.....	21,145 00
6,440 boats fished by 11,068 men.....	196,186 00
248,218 fathoms gill net.....	156,449 00
532 seines of 24,751 fathoms.....	28,332 00
136 trap nets.....	55,400 00
840 trawls.....	13,182 00
20 weirs.....	870 00
181 smelt nets.....	7,975 00
25,454 hand lines.....	11,689 00
151 lobster canneries employing 2,021 hands.....	48,760 00
128,720 lobster traps.....	70,406 00
146 freezers and ice houses.....	17,450 00
1,119 smoke and fish houses.....	149,735 00
228 piers and wharfs.....	69,140 00
9 smacks and tugs.....	8,575 00
Total value.....	854,284 00

2-3 EDWARD VII., A. 1903

RETURN of the Number of Fishermen, the Number of Boats, Nets, &c., and the  
Cape Chat to Point Lévis,

Number.		FISHING MATERIAL.												Salmon, lbs.		Shad, lbs.		Herring salted, brls.	
		Boats.			Gill Nets.			Night Lines.		Brush or Eel Weirs.									
		Number.	Tonnage.	Value.	Number.	Fathoms.	Value.	Number.	Hooks.	Value.	Number.	Value.							
DISTRICTS.			\$				\$		\$		\$								
1	Capucins	15	230	18	10	275	250	40	40								136		
2	Petits Mechins	21	315	31	18	450	220	70	70								140		
3	Grands Mechins	23	345	30	34	860	510	75	75					3000			190		
4	Grosses Roches and vicinity	33	296	36	30	750	750	85	85								130		
5	Ste. Félicité	50	550	50	60	684	600	100	100	5	200						100		
6	Matane	19	278	19	3	165	80	26	28	12	610	7200					532		
7	Rivière Blanche	24	390	24	26	206	295	32	32								447		
8	Sandy Bay	100	1200	110	110	2290	2234	40	40					80			1254		
9	Métis	7	70	7	3	75	30			25	350	355					90		
10	Ste. Flavie	13	139	13	2	50	30			9	430	720					92		
11	Ste. Luce	5	64	5	21	400	260	2	5			1605	15				10		
12	Rimouski	25	440	25						17	2700	7255							
13	Rivière Hatée and vicinity	6	100	6						4	180	455	600			5			
14	Bic and vicinity	2	25	2						17	800	350	600			4			
15	St. Simon and St. Fabien			11						11	100	750				15			
16	Trois Pistoles	4	50	8						9	200	120	1000			10			
17	Isle Verte	65	735	75						33	2800	3690	1945			25			
18	Cacouna	15	140	15						12	825	443	430			20			
19	Rivière du Loup and Notre Dame	8	96	8						11	500	2700							
20	St. Germain and St. André	2	25	4						13	600	45	5			5			
21	Kamouraska	2	25	4						9	1065	225	950			6			
22	St. Denis			9						9	160	950	750						
23	Rivière Ouelle	16	72	34						18	1250	2250							
24	Ste. Anne Lapocatière	6	150	8						16	1000								
25	St. Roch			11						11	600								
26	St. Jean Port Joli			25						25	350								
27	L'Islet	4	93	2						8	305								
28	Cap St. Ignace			16	6	210	32			16	770								
29	Montmagny	2	18	2	4	80	50			13	1540	30							
30	Berthier	10	75	10	4	110	15			51	2400	65							
31	St. Valier	8	74	12						6	6380	1465	240						
32	St. Michel	11	83	11						6	2800	565	325						
33	Beaumont	6	45	6						6	2700	925	650						
34	St. Joseph de Lévis	13	65	13						8	3200	1255	810						
35	St. Nicholas	2	18	2						1	400	200	200						
36	Crane, Goose and Canoe Islands									7	740								
Totals		517	6206	662	331	6605	5356	470	473	388	35955	36698	8520			3201			
Values		\$										7339	511			12804			

In No. 14 add 7 seals. In No. 19 add 18 seals. In No. 23 add 28 white whales at \$4 and 2,110 galls.

## SESSIONAL PAPER No. 22

Quantity of Fish caught on the South Shore of the St. Lawrence River from Province of Quebec, for the Year 1901.

KINDS OF FISH.													TOTAL VALUE OF ALL FISH.	Number.
Herring, fresh, lbs.	Herring smoked, lbs.	Whitefish, lbs.	Bass, lbs.	Pickarel, lbs.	Cod, cwt.	Halibut, lbs.	Sturgeon, lbs.	Fels, lbs.	Sardines, brls.	Fish oil, galls.	Mixed and coarse fish, lbs.	Fish as bait, brls.		
6000					96	100				18	100	9000	\$ 14,464	1
3000					94	652				60	500	5200	cts. 8,860	2
3000					105	700				120	50	75	2,039	3
5000					220	881				110	80	7100	12,221	4
9000	600				130	450				100	200	79	1,217	5
2400	1800				95	4230			6	225	180	78	4,650	6
20200	1300				46	1000				12	100	20	2,334	7
5000	1100				45	5670			8	10	15	30	5,923	8
28700	1200								35		900		3,446	9
3000									2		1000		558	10
50000									46		3700		1,096	11
145400	3900								164		28880		3,763	12
23200	5000								11				512	13
9200	4000								31				395	14
175								5200					523	15
28200	2500								6		2500		499	16
27965	2000								125		2500		1,674	17
15800	600							4000	937		18250		3,597	18
400	5000					650		4100	50		2500		1,126	19
3000	3000					225		2005	175		14075		918	20
84000	1000					2600		435	132		4075		1,580	21
2400								5400	450		600		1,963	22
							1000		250	2110	4000		2,045	23
								2800			175		169	24
								4400			200		266	25
								11400			200		686	26
								6600			1300		409	27
								9800			3000		623	28
				110										
			5420	100		3200	6120				7400		1,077	29
			6005	500		1800	30400				4050		2,490	30
		1600	5200	230		4250	30835				4050		3,008	31
		660	2250	1065		5150	25100				2200		2,255	32
		1600	2300	2500		3500	33800				3900		2,938	33
		400	3500	3700		3100	54000				3600		4,258	34
		600	400	400		400	6000				2400		560	35
							17200				1000		1,567	36
740040	33000	4860	25075	8605	831	13683	25875	259595	2428	2765	117690	21582		
7400	660	389	2006	430	3324	1368	1552	15576	7284	830	1177	32373	31	95.923 40

of oil at 30c. In No. 36 include 50 brls. bar fish, \$500; and 20 seals, \$25.

2-3 EDWARD VII., A. 1903

RETURN of the Number of Boats, Nets, &c., and the Quantity and Value of Fish in  
Province of Quebec,

Number.	DISTRICTS.	FISHING MATERIAL.										
		Boats.			Gill Nets.			Seines.			Hoop Nets.	
		Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.
		\$		\$		\$		\$		\$		\$
1	Nicolet County.....	60	450	60	25	510	75	27	540	180	12	110
2	Yamaska County..	65	700	75				20	600	500	670	3350
3	Richelieu County.....	51	460	62				14	420	400	210	1050
4	Richelieu River.....	90	1420	120				60	1540	1310	105	2450
5	Vercheres County.....	54	500	58				10	300	275	12	60
6	Chambly County.....	31	250	35				9	285	250		
7	Laprairie County.....	5	60	10				4	120	100		
8	Lake St. Louis and tributaries.....	70	1050	70	40	600	250	20	400	200		
9	Lake St. Francis and tributaries.....	60	920	60	2	110	20	6	110	75		
10	Ottawa River and tributaries.....	175	1550	210	150	3100	540	35	325	175	1	60
11	Lake Two Mountains..	80	870	55	200	2400	500	2	75	35	5	30
12	Terrebonne and L'Assomption.....	50	600	55	2	60	30	25	600	500	15	75
13	Berthier County.....	43	450	50				8	280	250	480	1440
14	Maskinonge County.....	40	500	45				1	25	30	90	200
15	St. Maurice to Portneuf.....	76	760	80	45	1420	700	40	1200	800		
16	Lakes and streams in eastern townships.....				Angling, trolling and night lines.							
17	Missisquoi Bay and vicinity.....	10	100	35				14	1200	700		
	Totals.....	960	10640	1080	464	8200	2115	295	8020	5780	1600	8825
	Values.....	\$										

\* In No. 4 add 8 eel weirs valued at \$40,000.

† In No. 15 add 21,500 bushels of tom cod valued at \$10,750.

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the Inland Districts extending from Quebec City to Pontiac, inclusive, in the for the Year 1901.

KINDS OF FISH.											TOTAL VALUE.	Number.
Shad, lbs.	Whitefish, lbs.	Trout, lbs.	Bass, lbs.	Pickarel, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Eels, lbs.	Perch, lbs.	Mixed and coarse fish, lbs.		
											\$ cts.	
1500	1000		2500	20000	6000	2000	5000			112000	3,150 00	1
	350		6280	26000	24900	1030	2250	24600	31200	355300	8,988 20	2
	70		2020	17700	19300	600	3780	20350	23100	82900	4,890 00	3
			6720	7650	28700	300	1300	89150	57700	227300	11,517 10	4
	400		3000	6500	9800	450	4620	17300	12700	116450	3,876 70	5
	2300		1690	4000	5700	400	2580	2735	12100	140350	2,856 60	6
2500	175		900	1500	1200		600		2000	60500	1,060 00	7
			12100	11150	22820	5200	25000	32500	30500	92400	8,039 30	8
			12410	15000	15100	2200	45400	151250	9700	64100	15,209 80	9
	38950	81500	35200	41000	95630	23500	40740	7700	10170	412570	28,704 40	10
300		3000	10200	4020	22250	7370	9320	4400	18000	217200	6,202 40	11
3600		46800	4100	16200	10000	750	2100	5500	10400	75300	8,000 00	12
	200	500	1800	7700	18500	550	2450	8600	20500	120200	3,848 00	13
		5000		4300	9000	4000	2100	6500	3000	39000	2,311 00	14
1250	3700		11900	28200	35350	3600	20000	49900	44500	340700	24,049 00	15
	5700	62500	10300	45200	1730	1000		2900	7100	50500	10,811 20	16
400				46800					44200	12000	3,810 00	17
9550	52845	199300	121120	302920	325980	52950	167240	423385	336870	2818770		
573	4227	19930	9690	15146	13039	3177	10034	25403	10106	28188	150,263 70	



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NORTH SHORE of the St. Lawrence from Quebec to the Saguenay, including Lake St. John District—1901.

FISHING MATERIALS.	County of Quebec.	Montmor- ency, & Isle d'Orleans.	Charlevoix & Isle aux Coudres.	Lake St John & Tributaries.	Total Quantity.	Total Value.
Boats, No. ....	6	4	6	10	26	\$ 300 00
Weirs, No. ....		130	80		210	15,000 00
Gill nets, fathoms ....	320		130	720	1,170	350 00
Seines, fathoms. ....		60	40		100	60 00
Total value. ....						15,710 00

KINDS OF FISH.						
Salmon, lbs. ....		400	1,600	8,000	10,000	2,000 00
Herring, fresh, lbs. ....			5,500		5,500	55 00
Whitefish, lbs. ....	3,500	400		19,200	33,100	1,845 00
Trout, lbs. ....	11,000	2,200	18,500	35,000	66,700	6,670 00
Pickereel, lbs. ....	1,200	500		83,400	85,100	4,255 00
Pike, lbs. ....	150			37,000	37,150	1,486 00
Sturgeon, lbs. ....	2,100				2,100	125 00
Eels, lbs. ....	500	305,000	55,000		360,500	21,630 00
Perch, lbs. ....				2,000	2,000	60 00
Ouananiche, lbs. ....				31,000	31,000	3,100 00
Sardines, brls. ....			225		225	675 00
Mixed and coarse fish, lbs. ....	2,300	45,000	195,000	150,500	392,800	3,928 00
Fish manure, brls. ....			1,900		1,900	950 00
Totals. ....	20,750	353,500	700,600	366,100	1,440,950	...
Values. .... \$	1,625	19,107	9,100	16,951	...	46,783 00

## SESSIONAL PAPER No. 22

## RECAPITULATION

OF the Yield and Value of the Inland Fisheries of Quebec (exclusive of the Gulf Division) for the year 1901.

KINDS OF FISH.	Quantity.	Price.		Value.
		\$	c.	
Cod .....	Cwt. 831	4.00		3,324 00
Halibut .....	Lbs. 13,683	.10		1,368 30
Salmon .....	" 46,698	.20		9,339 60
Trout .....	" 266,000	.10		26,600 00
Ouananiche .....	" 31,000	.10		3,100 00
Herring, salted .....	Brls. 3,201	4.00		12,804 00
" fresh .....	Lbs. 745,540	.01		7,455 40
" smoked .....	" 33,000	.02		660 00
Sardines .....	Brls. 2,653	3.00		7,959 00
Shad .....	Lbs. 18,070	.06		1,084 20
Eels .....	" 1,043,480	.06		62,608 80
Perch .....	" 338,870	.03		10,166 10
Pickarel .....	" 396,625	.05		19,831 25
Pike .....	" 363,130	.04		14,525 20
Maskinonge .....	" 52,950	.06		3,177 00
Bass (achigan) .....	" 146,195	.08		11,695 60
Bar fish .....	Brls. 50	10.00		500 00
Whitefish .....	Lbs. 80,805	.08		6,464 40
Sturgeon .....	" 195,215	.06		11,712 90
Tom Cod .....	Bushels. 21,500	.60		10,750 00
Mixed fish .....	Lbs. 3,329,260	.01		33,292 60
White Whales, (Beluga) skins .....	No. 28	4.00		112 00
Seal skins .....	" 45	1.25		56 25
Fish oil .....	Galls. 2,765	.30		829 50
Fish as bait .....	Brls. 21,582	1.50		32,373 00
" " manure .....	" 1,962	.50		981 00
Total for 1901 .....				292,770 10
" " 1900 .....				343,686 42
Decrease .....				50,916 32

## STATEMENT

SHOWING the Fishing Material used in Quebec Inland Districts (exclusive of the Gulf St. Lawrence Division) for 1901.

Articles.	Value.
	\$ cts.
1,503 Fishing boats .....	17,146 00
850 Gill nets (15,975 fathoms) .....	7,821 00
300 Seines (8,120 fathoms) .....	5,840 00
606 Weirs (eel) .....	90,955 00
1,600 Hoop nets (verveux) .....	8,825 00
3,540 Night lines .....	5,790 00
Total .....	136,377 00

## RECAPITULATION

Of the Yield and Value of the Fisheries in the whole Province of Quebec, for the Year 1901.

Kinds of Fish.	Quantity.	Rate.	Value.	Total Value.
		\$ cts.	\$ cts.	\$ cts.
Salmon, fresh..... lbs.	1,196,981	0 20	239,396 20	
" smoked..... "	1,440	0 20	288 00	
" salted..... brls.	555	15 00	8,325 00	248,009 20
Trout..... lbs.	367,317	0 10		36,731 70
Ouananiche..... "	31,000	0 10		3,100 00
Whitefish..... "	80,805	0 08		6,464 40
Smelts..... "	392,700	0 05		19,635 00
Cod, dried..... cwt.	227,035	4 00	908,140 00	
" tongues and sounds..... brls.	258	0 10	2,580 00	910,720 00
Haddock, fresh..... lbs.	34,000	0 03	1,020 00	
" dried..... cwt.	3,532	3 00	10,596 00	11,616 00
Hake..... "	513	2 25		1,154 25
Tom cod..... lbs.	716,500			14,325 00
Halibut..... "	159,012	0 10		15,901 20
Herring, salted..... brls.	30,803	4 00	123,212 00	
" fresh..... lbs.	889,340	0 01	8,893 40	
" smoked..... "	123,000	0 02	2,460 00	134,565 40
Sardines..... brls.	2,653	3 00		7,959 00
Shad..... lbs.	18,070	0 06		1,064 20
Bass..... "	146,195	0 08		11,695 60
Pickrel..... "	396,625	0 05		19,831 25
Perch..... "	338,870	0 03		10,166 10
Pike..... "	363,130	0 04		14,525 20
Maskinongé..... "	52,950	0 06		3,177 00
Eels..... "	1,043,480	0 06	62,608 80	
Eels, pickled..... brls.	187	10 00	1,870 00	64,478 80
Sturgeon..... "	197,415	0 06		11,844 90
Mackerel, fresh..... "	5,500	0 12	660 00	
" salted..... brls.	12,424	15 00	186,360 00	187,020 00
Lobsters, canned..... lbs.	825,171	0 20	165,034 20	
" fresh..... cwt.	70	5 00	350 00	165,384 20
Squid..... brls.	4,451	4 00		17,804 00
Mixed fish..... lbs.	3,349,060			33,890 00
Fish as bait..... brls.	61,870	1 50		92,805 00
" manure..... "	89,382	0 50		44,691 00
" oil..... galls	221,474	0 30		66,442 20
Seal skins..... No.	15,461	1 25		19,326 25
Beluga skins, (white whales)..... "	28	4 00		112 00
Total for 1901.....				2,174,459 45
Total for 1900.....				1,989,279 07
Increase.....				185,180 38

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## RECAPITULATION

Of the Number of Vessels, Boats, Nets, &c., in the whole Province of Quebec, for the Year 1901.

Articles.	Value.		Total.	
	\$	cts.	\$	cts.
83 Fishing vessels .....	21,145	00		
7,943 " boats .....	212,332	00		
12,278 Gill-nets (264,193 fathoms) .....	164,270	00		
832 Seines (32,870 fathoms) .....	34,172	00		
136 Trap-nets .....	55,400	00		
840 Trawls .....	13,182	00		
626 Weirs .....	55,825	00		
181 Smelt nets .....	7,975	00		
1,600 Hoop nets (verveux) .....	8,825	00		
25,454 Hand lines .....	11,689	00		
3,540 Night lines .....	5,790	00		
			590,605	00
151 Lobster canneries .....	48,750	00		
128,720 " traps .....	70,406	00		
			119,156	00
146 Freezers and ice houses .....	17,450	00		
1,119 Smoke and fish houses .....	149,735	00		
228 Fishing piers and wharfs .....	69,140	00		
9 " smacks and tugs .....	8,575	00		
			244,900	00
Total .....			954,661	00

## APPENDIX No. 9.

### NEW BRUNSWICK.

**District No. 1**, comprising the counties of Charlotte and St. John.  
*Inspector J. H. Pratt, St. Andrews.*

**District No. 2**, comprising the counties of Albert, Westmorland, Kent, Northumberland, Gloucester and Restigouche. *Inspector R. A. Chapman, Moncton.*

**District No. 3**, comprising the counties of Victoria, Carleton, York, Sunbury, Queen's and King's. *Inspector H. E. Harrison, Mautegville.\**

#### DISTRICT No. 1.

#### REPORT ON THE FISHERIES OF DISTRICT No. 1, NEW BRUNSWICK, COMPRISING THE COUNTIES OF CHARLOTTE AND ST. JOHN, FOR THE YEAR 1901.

ST. ANDREWS, N.B., May 15, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to submit herewith my thirteenth annual report on the fisheries of District No. 1, New Brunswick, which comprises not only the county of Charlotte and the border lakes, but the county of St. John as well, this county having been placed under my control one year ago.

The usual tabulated statements will be found herewith, showing the catches and values in the several sub-districts, together with a synopsis of the several fishery officer's reports, which are becoming more comprehensive and accurate each season, as the officers become more familiar with their districts, and the duties required of them.

The value of the catch for the season just closed shows a great increase over the previous season of 1900, which is mostly accounted for by an increased catch of herring. This increase amounts to \$46 9,653. The value of small herring alone, suitable for sardines, increased from \$195,000 in 1900, to over \$464,000 this past season. I might cite here the case of the Island of Grand Manan, where the total value of catch in 1900 was but \$167,689, and this season increased to \$308,172, owing to the large schools of herring striking that coast. It is well known that Grand Manan is the seat of the smoked herring industry of the Dominion of Canada, and while its fishermen put up only a little over 2,000,000 lbs. in 1900, during the past season they cured over 6,000,000 lbs. It might not be out of place to insert here the value of the catch of this district during the past ten years in order to better demonstrate the fluctuations.

Total for	\$	cts.
1892 .....	863,465	00
1893 .....	771,182	00
1894 .....	1,118,477	00
1895 .....	968,203	00
1896 .....	1,108,701	00
1897 .....	870,287	00
1898 .....	1,145,361	00
1899 .....	1,216,394	00
1900 .....	638,890	00
1901 .....	1,285,073	50

\* Inspector Miles, who had charge of this district, died in the spring of 1902. He had sent fishery statistics for the previous year but made no report.

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As the county of Saint John was added to district No. 1, about a year ago, therefore, the value of its fisheries will be included in my report this season, swelling the total value of the district's catch to \$1,285,073. The above value of catch for the counties of Saint John and Charlotte is most gratifying, and will show to the most casual observer that the far-famed Bay of Fundy Fisheries are not yet ruined, although great fluctuations in the fishing industry are always to be expected and are by no means rare.

The old time energy of our fishermen began to show itself early in the season. Many new weirs were erected and every exertion was put forth in order that the financial returns for the seasons work would be as remunerative as possible when the year terminated.

The slaughter of pollock by means of the deadly dynamite cartridge was pushed with all vigour by the hardy and reckless fishermen of Grand-Manan and Eastport, who care little for the future of our fisheries so long as they can reap their harvest by their nefarious appliances. Few of them could be made to believe that it was their last season to fish in this manner, and that your department was acting with the United States government, in concerting measures that would make fishing with dynamite very unpopular indeed.

The herring spawning grounds at Southern Head of Grand Manan during the month of September were invaded in a stealthy manner by the usual fleet of poaching vessels, who have hitherto always been ready and able to heave up their anchors or slip their cables and fly to a place of safety, 'ere we could get upon them in the darkness.

However, in the beginning of September, we steamed to the spawning grounds at midnight of the first and surprised a fleet of seven vessels with their nets all set for herring. We seized all the vessels and at daylight steamed towards Saint Andrews with them in tow. We proceeded there by the way of Quoddy river, so that many other would be poachers could be eye-witnesses to the fate of those law-breakers, and these seizures have had the effect of imbuing other fishermen with a wholesome respect for the spawning ground limits. The large increase in the catch this season, over that of 1900, has furnished food for discussion among parties who claim to possess authentic information as to the movements of the various kind of fish, and who are desirous to intrude their theories at every opportunity in their anxious endeavours to explain. While we often meet the unpleasant seasons of scarcity in the various fisheries, we can therefore derive considerable comfort from the statement recently made by several eminent marine biologists, who assure us that the resources of the sea with regard to fish life are practically inexhaustible, and we sincerely trust that their assertions are correct.

During the season I was necessarily absent occasionally on the coasts of Nova Scotia and Cape Breton, assisting to enforce the various Fishery laws against the local and foreign fishermen. Very little trouble was experienced in this work, as the fishermen are gradually becoming aware of the fact that the fishery laws were made for their best interests, and not to ignore them. This fact becoming so generally known makes the work easier and the laws better respected.

The Marine Biological Station, which has done such valuable work at St. Andrews since its erection there, was placed on a scow during the spring, with a view of removing it to Canso, Nova Scotia.

Receiving orders to do this towing, on June 3, we made our tow line securely fast to it and began our voyage. As this station is quite a frail structure we were compelled to exercise great care, more especially as it was the general opinion that the station would be wrecked on some of the numerous dangers to be met with in the voyage. After those gloomy predictions, it was a great pleasure for us to land it safely at Canso on the morning of June 12, without it, or any of its fittings, being damaged in the slightest manner.

Canso is a splendid location for biological work, the waters surrounding it teeming with fish life and the work of the biological staff will no doubt be thoroughly appreciated by the enterprising fishermen and merchants of the place.

On several of my cruises to Nova Scotia and Cape Breton I had many opportunities of hearing fishermen speaking in an approving manner of the commendable efforts put forth by your department to furnish them with a constant supply of bait, by the

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erection of freezers at so many parts of the coast, and it was a great pleasure to hear that these efforts were appreciated, and the freezers working successfully wherever they have been erected.

Owing to storms and other causes I was unable to finish my fisheries work until December 24, when I steamed to St. John and placed the *Curlew* in winter quarters. The collection of the bounty claims in this district takes considerable time and it is very interesting to notice the very broad interpretation of the bounty regulations by the fishermen, and the correct interpretation as given by your department. However, the numerous claimants are becoming more familiar each season with the provisions of the Bounty Act, which greatly simplifies the work and allows an officer to ascertain the catch of his district with a greater degree of accuracy than heretofore.

## HERRING.

As will be noticed by the returns, the catch of herring of all sizes has increased, and the value of the catch this season alone is estimated at \$771,899. This sum includes barreled herring, kippered herring and canned sardines. The schools of herring were very slow in striking the coast, but the size of the several schools was quite large and big hauls were accordingly made. Small herring suitable for manufacturing into sardines struck into Digdeguash in St. Andrew's Bay in very large schools, and it was surprising the vast amount of herring taken there by our fishermen. It is computed that fully 15,000 hogsheads of small herring were taken in at Digdeguash alone, for which the fishermen operating there received fully fifty thousand dollars. From the district between St. Andrews and l'Etang river the factories at Eastport and Lubec, operated by the Sardine Syndicate, received over 28,000 hogsheads of herring, for which they paid fully \$95,000. If the herring also taken from the district named and used by factories outside of the syndicate were included, a considerable increase would result in the above figures. The Commissioner of Fisheries for the State of Maine, reports that this season the number of cases of sardines packed was 1,395,902, against 815,060 during 1900.

## POLLOCK.

An increase in the catch from 18,884 quintals in 1900, to 25,837 quintals this season, will be noticed in the returns for pollock. In the Quoddy river they were very plentiful and about the middle of April they struck in shore at Grand Manan in large schools, and the dynamite fishermen enjoyed themselves hugely in capturing them by this deadly explosive. Large catches resulted by this method of fishing, and when I arrived at Grand Manan on April 21, with the new law your department had framed against the further use of dynamite, the men using it were considerably dismayed but the more hopeful ones consoled themselves with the idea that they could easily evade the law in various ways.

They tried those methods of evasion, and on the May 12, we seized three of their vessels for violating the dynamite law, towing them to St. Andrews and imposing a fine of \$100 on each vessel.

They were also warned that future violations would be punished by the imposition of the full penalties. Dynamite with fuses and detonating caps were found on each vessel and confiscated, and dynamite fishing is now a thing of the past, much to the pleasure of everybody.

## LOBSTERS.

8,732 cwt. is the result of this year's lobster fishing in Charlotte county, a decrease from previous seasons, but when including St. John county's catch, makes a total of 10,847 cwt. There are more men and more traps being added to this fishing annually and there is no doubt it is being overdone and legislation would be found necessary in the near future to curtail the operations of this fishery.

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A 10½-inch law in St. John county is working beneficially, and with hardly an exception the fishermen are well pleased with it and the sooner this same law is extended to Charlotte county the better for the future of this valuable fishery. This change is recommended by nearly all those who are in a position to have any information on the subject, and even the lobster fishermen themselves recommend it, and all feel certain that in the near future this change will be found absolutely necessary by your department.

The United States fishery authorities are doing their best to preserve the lobster near here, and this summer I noticed with pleasure one of their little steamers placing near Eastport over 1,000,000 lobster fry, which should surely be a benefit to the fisheries on this side of the boundary line.

## COD AND HADDOCK.

A large increase will be noticed in the catch of cod and haddock, due not only to more people being engaged in fishing for them but also owing to the fact that the fish were more plentiful than during the previous season. Prices have been very good and the demand for these fish brisk, the fishermen getting clear of their catches without any delay.

## SALMON.

This valuable fishery is carried on almost exclusively in the Bay of Fundy, off the coast of St. John county, and gives employment to several hundred men. Nearly all the boats in this industry are now under the annual license, which gives them a better standing as fishermen. The returns will show about the same catch as last season from Point Le Preau to Quaco, and this fishery from the reports of those engaged in it does not show any signs of becoming impoverished. If the various streams to which the salmon resort to spawn were given proper protection from the numerous miserable poachers who avail themselves of every opportunity to capture those fish as they are ascending the rivers the future of this fish would be much brighter.

The mill owners have an aversion to insert fish-ways in their dams and only the enforcement of the Fishery Act with all its attendant costs and unpleasantness would make them do what is fit and proper.

In the St. Croix river the salmon ascended in gratifying numbers, providing good sport for large numbers of fly fishermen who frequent the St. Stephen pool to exercise their skill with the rod.

## SYNOPSIS OF FISHERY OFFICERS REPORTS.

*Guardian Hall, of St. George*, states in his annual report, that the season has been very successful and that there was very little poaching in his district. He recommends that the close season for trout should commence on the first of September, as after that date the fish are full of spawn. The fish-ways are in good repair and there has been quite a run of salmon in the River Magaguadavic. He also recommends that a fish-way be placed at Upper Falls in the river, as it is impossible for salmon to ascend them.

*Guardian Mealy, of Beaver Harbour*, states that the fishermen of his district have been blessed with a bountiful harvest. The expectations of the weir fishermen have been more than realized in very many localities, with the exception of those in the L'Etang river, where the catch has been remarkably small. Several reasons have been given to account for this, one being that the waters are polluted from refuse of the sardine factory there, while others assert that the stale bait used by lobster fishermen largely accounts for the scarcity of herring. If the latter reason is correct, I think the weir fishermen are partly to blame, for if they would lend their assistance to the fishery officer, the illegal lobster fishing would soon cease.

*Guardian Lord, of West Isles*, reports that nearly all the fishermen of his district did fairly well during the season, many of the weir owners having good returns, while



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the line fishermen report satisfactory prices for the sale of their catch. As the majority of the fishermen in my district are weir owners, they are certain of good dividends when the sardine schools strike the shores of this island. The high prices paid for sardine herring by the Eastport Syndicate, in their endeavours to keep herring from going to the factories outside of their syndicate, were of great financial assistance to the weir owners of my district who were fortunate in having herring to sell. The first part of this season was a fairly good one for herring, a large increase compared with last year, the herring striking in early and some weirs doing extremely well. Though the season was short the prices were high, the average price per hoghead being higher than for some years. Lobsters show a very slight decrease, which was owing to the number of men and traps employed being less than last year. When other branches of fishing are profitable, lobster fishing is not so vigorously prosecuted, this being partly the reason lobsters show a decrease. However, there is no doubt lobsters are becoming scarcer every year.

*Guardian Daley, of Pocologan*, reports that sardines and herring generally were fairly plentiful and good prices were realized. Lobster fishing was very good and in a number of instances lobster fishing boats with two men in them making as high as nine dollars a day to each boat. Pollock were very plentiful and in many cases big catches were made by the weirs at Pocologan. Pocologan is noted for its large clam flats, where many schooners load annually for Nova Scotia. There is no doubt those flats will soon be bare of clams, and he thinks there should be a close season for them.

*Chief Boatman Mitchell*, who patrols *Quoddy River* with an assistant, preventing United States citizens from encroaching on the Canadian fisheries, states that the catch of pollock in Quoddy river was one of the largest ever known. These fish strike in about the first of May and last until the first of November, and there is no doubt the numbers are increasing. The catch of haddock has been better than 1900, and the men that have been trawling them have made a good season's work. The catch of codfish has also been better than that of 1900, and a number of lots of codfish were prepared for the annual Fish Fair held at Welshpool on October 10, and they found a ready sale at eight dollars per quintal.

The catch of sardine herring was small all over the island of Campobello, with the exception of the weirs at Herring cove, when during the months of June and July the owners of the weirs received for their catch from ten to fifteen dollars per hoghead.

*Overseer Frank Todd, of Saint Stephen*, states that there was a splendid run of salmon during the season, which afforded good sport to the numerous fly-fishermen that tried their luck on the several fishing stands. Since poaching was attempted by a number of lawless characters who are still living along the river, but owing to the vigilance of *Guardians Glass and Mannix* their unlawful intentions were nipped in the bud. Mr. Todd would strongly recommend that the present guardians be retained for same length of time each season in future, as in the past.

*Overseer Savage, of Campobello Island*, states that all kinds of fish were more plentiful than last season, with the exception of lobsters. Good prices were paid and the fishermen are well pleased with the seasons work. Too much cannot be said against the practice of destroying pollock by the use of dynamite. When they first made their appearance this season a large percentage of them were mutilated, the sounds being broken and flesh discoloured. No doubt these injuries can be traced to the use of dynamite. There was an increase in the sardine herring catch over last season and they struck here about July, but after a few weeks the dog-fish and squid also appeared, driving the herring into Saint Andrews bay.

Pollock struck in about May 20, and stayed till the end of October, which is about six weeks later than usual. Nearly twice as many were caught as last season, and they appear to be more plentiful each year. The cod and haddock were very plentiful, but the appearance of the dog-fish interfered considerably with fishing operations.

*Overseer Fraser, of Grand Manan*, reports that the fisheries of his district, have been a success. Double the quantity of fish in many cases being taken and prices ruled about the same as last year. About 90 per cent of the total catch were exported. There was a good demand for kippered herring, which is likely to increase each season. A large sardine factory has been erected at Grand Harbour, which is expected to

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distribute a large amount of money annually. He recommends that measures be taken to prevent the net fishermen from leaving their nets in the waters during the day time. About double the number of barrels of pickled herring were put up this year, the price received was somewhat higher than last season, and the quantity of herring smoked would be about double what was smoked in 1900. A very much larger catch of codfish was the result this season, but no increase was noted in the catch of haddock. The catch of pollock was double that taken last year, owing to more people being engaged at it and the use of dynamite for exploding among the schools.

*Overseer Thomas, of Point Le preau*, states that the lobster fishing on the western side of Point Le preau was a very good one, in fact, far above the average, and on the eastern side of the Point fairly good and the law well kept.

*Guardian Belding, of Chance Harbour*, reports that the fishing for lobsters between Dipper harbour and Musquash will show a decrease from previous year, with prices lower. Herring have altogether left this district during the last ten years, but during March of this year they paid us a visit remaining one month. The annual visit of gaspereau found only a few boats willing to engage in their capture, and the catch was far below the average. Shad follow close after the gaspereau and there was a very poor catch of them this year. Codfish for the last seven or eight years have been scarce, and the fishermen do not fit out extensively for them. They were very plentiful during March and those of the fishermen who were prepared for fishing, did very well for a month.

*Guardian Skillen, of Quaco*, reports that there was an increased catch of lobsters last year over that of the previous year, with an increased number of small lobsters found in the traps. The total catch for my district during the year would be about twenty tons of lobsters, and at the prices received would give the fishermen of this district nearly two thousand dollars. The herring fishing in this district has almost become extinct, although thousands of barrels were formerly caught here annually. The total catch here this year would not be more than forty barrels. Only about fifteen quintals of cod, and thirty quintals of pollock have been taken, the smallest for many years.

There were but few salmon this year on account of drouth, they could not get up the small streams at all, and there was little or no poaching. The only place in my district where they were in abundance was Salmon river, and they were there in thousands under the dam, and being obstructed had to go to sea again. Had there been a fishway in the dam on this river there is no doubt but that it would have been full of them. For miles along this river there are at intervals large deep pools from ten to twenty feet deep, one of the finest places for salmon on our shores.

*Guardian Kersop, of Black River*, reports a very good season's catch and the fishery laws very well observed. Buyers from Eastport, Me., come here often paying on an average 12 cents a-piece for lobsters. There was no netting herring or line fishing during the season worth speaking of.

*Guardian Murray, of Dipper Harbour*, reports about the same lobster catch as in 1900, with the average size of lobsters not quite as large. Good prices were paid by the numerous buyers, and our fishermen were well pleased with the results of their labour.

The usual number of men were employed at the salmon fishing and the results were fairly remunerative. The fishermen were law-abiding and I experienced very little trouble in enforcing the various fishery laws.

I have the honour to be, sir,  
Your obedient servant,

JOHN H. PRATT,  
*Inspector of Fisheries.*

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Thus while each trap fished in 1891 caught nearly 26 cans of these fish, in 1901 each trap did not catch quite 8 cans, this is certainly appalling, and shows that something must be done at once to prevent the extermination of this fishery, and its importance when we come to consider that the pack of 1891 at the prices obtainable for the past two or three years would be worth upwards of \$700,000, which capitalized at 4 p.c. would make it worth upwards of \$17,000,000) can hardly be over estimated. The question then arises, what is to be done? I believe fall fishing (which would allow all the female fish to spawn) might have the desired effect, but this the packers will never agree to, owing to so much stormy weather during that season. I understand hatcheries are doing good work where tried, and the decline in this fishery being much less in the narrow part of the straits of Northumberland (where factories are thicker) than anywhere else in my district, is attributed by the fishermen to the Pictou hatchery. There are two points especially well situated for hatcheries, one being at the mouth of Shemogue harbour in Westmorland county, and the other at or near Point Canoe on the north side of Shippegan island, Gloucester county. The great advantages possessed by these locations are the very large number of factories that can be reached from them, and the currents in the vicinity, both flood and ebb tide being strong, will carry the young lobsters far and wide along our coasts, indeed I know of no other points where hatcheries could be located that would reach one third of the fishing that could be done at or near the two places named. From what has been done in other places, I have no doubt that upwards of 400,000,000 young lobsters could be turned out annually, and if 5 p.c. only matured, this would more than restore the whole industry. Many of the leading packers on the straits where the season has been altered upon the recommendation of the lobster commission already repent that the change was too radical, they say it is now the first of June before they can do any real fishing, thus losing May, when the fish are at their best, and packing when they have shed their shells and in their poorest condition. Many inferior fish were packed in this section last year, interfering much with prices.

## OYSTERS.

The quantity of oysters raked is considerably below that of last year, even allowing for some 1,200 barrels then taken from the reserve in Shediac, not so much owing to their scarcity, as to the great catch of codfish late in the fall on the Gloucester county coast, which prevented the usual number of boats from Caraquet, Shippegan visiting the Miramichi river and bays. The beds at Caraquet certainly want looking after, being situated at the mouth of the Caraquet river where the sediment from the river and the wash from the sea meet, and are gradually being covered with mud. These beds formerly produced large quantities, and even four or five years ago, four times as many were raked as in the past year. Mr. Kemp (oyster expert) should certainly visit these beds in the spring and see if anything can be done by dredging or otherwise to prevent their extermination. These oysters are small but of fine flavour.

Very few of the local officers have made any reports and the few received contain nothing that is not fully covered by my own. In conclusion, I would beg especially to ask your attention to the fishery regulations for this province, which have not been consolidated since 1889, many of them having been changed and rechanged since that time. Some amendments are also badly needed, especially to the smelt regulations. If they could all be put in shape and again consolidated it would be of great benefit to all the officers.

I have the honour to be sir,  
Your obedient servant,

R. A. CHAPMAN,  
*Inspector of Fisheries.*

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## NEW BRUNSWICK—District No. 1.

RETURN showing the Number, Tonnage and Value of Vessels and Boats and other Fishing Materials, in the Counties of St. John and Charlotte, Province of New Brunswick, for the Year 1901.

Number.	FISHING VESSELS OR BOATS.						FISHING GEAR OR MATERIALS.											
	Vessels.			Boats.			Gill-nets.		Seines.		Trawls.		Weirs.					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.				
<i>Charlotte County.</i>																		
1	4	51	1250	15	56	956	56	40	1200	500	20	610	37	148	20	11900	1	
2	9	158	2425	25	76	3000	76	80	3000	900	46	1280	2260	180	1120	46	1450	2
3	4	70	1000	20	160	4000	240	100	5000	1500	68	2100	2500	40	150	68	20000	3
4	2	17	500	4	119	3000	100	40	2000	800	54	1313	3000	12	75	59	18000	4
5	60	815	33400	232	205	20500	331	519	14320	4490	47	1780	4750	76	1520	48	48000	5
6	9	234	4650	57	201	7000	222	94	3038	1400	41	1156	1900	89	1300	43	11000	6
7	1	30	1200	6	200	8000	200	50	1000	350	90	3000	5540	65	650	90	36000	7
8																		8
Totals.	89	1375	44425	359	1017	46456	1225	923	29558	9940	366	11239	21095	499	4963	374	146350	
<i>St. John County.</i>																		
1	2	40	1000	10	300	12000	460	2300	69000	69000	8	680	1400	30	1000	28	11200	1
2	2	60	1200	10	70	3500	140	2500	163200	100000								2
3	2	40	800	10	105	10500	210	3500	105000	105000	20	1700	6000	80	3500	14	17000	3
4					20	500	20	40	500	500				5	150			4
5					20	500	20	40	500	500				10	300			5
Totals.	6	140	3000	30	515	27000	850	8340	338200	275000	28	2880	7400	245	8550	42	18200	
Grand totals.	95	1515	47425	389	1532	73456	2075	9303	367758	284940	394	13619	28495	744	13513	416	164550	



## SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish, &amp;c.—New Brunswick—Continued.

Districts.	KINDS OF FISH.													FISH PRODUCTS.				Dulse, lbs.	TOTAL VALUE.	Number.
	Pollock, cwt.	Halibut, lbs.	Trout, lbs.	Shad, lbs.	Smelts, lbs.	Alewives or Gaspareau, brls.	Eels, brls.	Sardines, brls.	Sardines, preserved in cans.	Flounders, lbs.	Tom Cod or Frost Fish, lbs.	Squid, brls.	Fish Oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Seal skins, number.				
<i>Charlotte County.</i>																				
1	Lepreau to Red Head.....	120	2000	2000	.....	.....	.....	15085	100000	.....	.....	.....	150	7500	*	.....	6080	57,788 00	1	
2	Red Head to L'Etang.....	383	.....	.....	.....	.....	.....	19703	1500000	5000	.....	.....	4350	215	1500	7	1000	189,903 00	2	
3	L'Etang to St. George.....	1600	.....	.....	.....	.....	.....	50000	.....	.....	.....	.....	500	.....	.....	.....	.....	114,325 00	3	
4	St. George to St. Stephen.....	200	.....	1000	.....	.....	.....	99000	25000	2000	.....	.....	.....	3500	3500	.....	.....	239,325 00	4	
5	Grand Manan.....	7400	3700	.....	.....	.....	.....	.....	.....	.....	.....	.....	8500	4200	4200	.....	42000	308,172 00	5	
6	Campobello.....	8134	6000	.....	320	.....	.....	13340	.....	.....	.....	498	1380	1264	110	.....	.....	91,640 50	6	
7	West Isles.....	8000	.....	6000	.....	1000	50	35000	.....	.....	10000	.....	2000	1000	.....	.....	.....	95,940 00	7	
8	St. George and vicinity.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,450 00	8	
Totals.....		25837	11700	9000	.....	1320	50	10	232128	1625000	7000	10000	498	16880	17679	5110	7	49000	1,108,543 50	
<i>St. John County.</i>																				
1	St. John Harbour.....	.....	.....	.....	450	.....	10000	130	.....	.....	.....	.....	.....	.....	500	.....	.....	115,375 00	1	
2	Lepreau to Chance Harbour.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,425 00	2	
3	Chance Harbour to Mispec.....	.....	.....	100	.....	.....	200	2500	.....	.....	.....	.....	.....	.....	.....	.....	.....	44,540 00	3	
4	Mispec to Tynemouth Creek.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,560 00	4	
5	Tynemouth Creek to Salmon River.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,630 00	5	
Totals.....		50	.....	550	.....	.....	10200	130	2500	.....	.....	.....	.....	.....	500	.....	.....	176,530 00		
Grand totals.....		25887	11700	9000	550	1320	10250	140	234628	1625000	7000	10000	498	16880	18179	5110	7	49000	1,285,073 50	

\* Include 750 brls. pumace or fertilizer, value, \$3,750.

## RECAPITULATION.

Of the Yield and Value of the Fisheries in District No. 1, New Brunswick, Comprising the Counties of St. John and Charlotte for the Year, 1901.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$ cts.		\$ cts.	
Salmon, fresh, in ice .....	Lbs. 217,450	0	20	43,490	00
Scallops, preserved .....	Cans. 65,000	0	15	9,750	00
Herring, salted .....	Brls. 5,698	4	00	22,792	00
" fresh or frozen .....	Lbs. 6,032,000	0	01	60,320	00
" kippered .....	Cans. 136,600	0	10	13,660	00
" smoked .....	Lbs. 6,431,050	0	02	128,621	00
Lobsters, canned .....	" 109,440	0	20	21,888	00
" fresh .....	Cwt. 10,847	8	00	86,776	00
Cod, dried .....	" 7,109	4	00	28,436	00
" fresh .....	Lbs. 321,000	0	04	12,840	00
Clams, preserved .....	Lbs. 91,000	0	10	9,100	00
" shelled .....	Brls. 1,950	7	00	13,650	00
Haddock, fresh .....	Lbs. 686,100	0	03	20,583	00
" dried .....	Cwt. 3,225	3	00	9,675	00
Finnan haddies, smoked .....	Lbs. 1,119,000	0	06	67,140	00
" preserved .....	Cans. 43,800	0	10	4,380	00
Hake, dried .....	Cwt. 14,034	2	25	31,576	50
" sounds .....	Lbs. 7,265	0	50	3,632	50
Pollock, dried .....	Cwt. 25,887	2	00	51,774	00
Halibut, fresh .....	Lbs. 11,700	0	10	1,170	00
Trout .....	" 9,000	0	10	900	00
Shad .....	Brls. 550	10	00	5,500	00
Smelts .....	Lbs. 1,320	0	05	66	00
Alewives, pickled .....	Brls. 10,250	4	00	41,000	00
Dulse .....	Lbs. 49,000	0	06	2,940	00
Eels .....	Brls. 140	10	00	1,400	00
Sardines .....	" 234,628	2	00	469,256	00
" preserved .....	Cans. 1,625,000	0	05	81,250	00
Flounders, fresh .....	Lbs. 7,000	0	05	350	00
Tom cod or frost fish .....	" 10,000	0	05	500	00
Squid .....	Brls. 498	4	00	1,992	00
Fish oil .....	Galls. 16,880	0	30	5,064	00
Fish used as bait .....	Brls. 18,179	1	50	27,268	50
" manure .....	" 5,110	0	50	2,555	00
Seal skins .....	No. 7	4	00	28	00
Pumace or fish fertilizer .....	Brls. 750	5	00	3,750	00
Total values for District No. 1, N.B. ....				1,285,073	50

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## RECAPITULATION

Of the Number and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of District No. 1, **New Brunswick**, comprising Counties of St. John and Charlotte, for the year 1901.

Number.	Material.	Value.	
		\$	cts.
95	Vessels (tonnage 1,515) .....	47,425	00
1,532	Boats .....	73,458	00
9,303	Gill nets, fathoms, 367,758 .....	284,940	00
394	Seines, fathoms, 13,619 .....	28,495	00
744	Trawls .....	13,513	00
416	Weirs .....	164,550	00
18	Smelt nets .....	150	00
1,500	Hand lines .....	750	00
7	Lobster canneries .....	15,100	00
30,620	" traps .....	27,626	00
17	Freezers for ice houses .....	8,000	00
728	Smoke and fish houses .....	174,550	00
291	Piers and wharfs .....	65,300	00
9	Tugs and smack .....	4,000	00
5	Sardine factories .....	41,000	00
4	Fish curing factories .....	7,000	00
85	Weir scows .....	5,000	00
60	Pile drivers .....	5,000	00
25	Fish presses .....	3,000	00
26	Clam canneries .....	600	00
1	Fish guano factory .....	5,000	00
	Total value of material .....	974,455	00



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## NEW BRUNSWICK—District No. 2.

RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, &c., in District No. 2, Province of New Brunswick, for the Year 1901.

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.					
		Vessels.			Boats.			Gill Nets.		Smelt Nets.			
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.	Value.	Number.
1	<i>Restigouche County.</i>	2	56	2000	8	30	600	40	34	7000	160	8000	1
2						195	4000	360	130	18500	28	2100	2
	Totals	2	56	2000	8	225	4600	400	164	25500	188	10100	
1	<i>Gloucester County.</i>	1	10	800	4	430	10000	870	1650	60000	40000		1
2		121	1388	48500	400	550	16500	960	1950	66000	39000	2000	2
3		20	230	8500	80	250	6500	500	3000	84000	32000	170	3
4		65	780	34000	230	460	20000	950	800	30000	10000	40	4
	Totals	207	2396	91800	714	1690	53000	3270	7400	240000	121000	250	8800
1	<i>Northumberland County.</i>	3	33	1250	12	210	7000	300	600	50000	45000	227	19000
2		3	60	1200	10	190	8000	500	800	80000	70000	260	18000
3						150	4000	180	300	35000	80000	398	27000
4						120	1800	120	360	14000	7500		
	Totals	6	83	2450	22	670	20800	1100	2050	179000	152500	885	56000

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RETURN showing the Fishing Material, &amp;c.—New Brunswick—Continued.

Number.	FISHING VESSELS AND BOATS.										FISHING GEAR OR MATERIALS.			
	Vessels.					Boats.					Gill Nets.		Smelt Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
<i>Kent County.</i>														
1	1	20	500	3	309	10360	475	5350	94900	14900	360	14400	1	
2						500	15000	800	3300	70000	250	10250	2	
3						300	9000	450	900	24000	65	3000	3	
Totals	1	20	500	3	1109	34360	1725	9750	188900	39900	675	27650		
<i>Westmorland County.</i>														
1					360	11500	650	680	30000	14000	110	6500	1	
2					375	9500	700	500	17500	8000	45	2000	2	
3					200	4000	250	300	5000	2000	33	1660	3	
4					30	1800	60	170	7500	3500	...	...	4	
Totals					965	26800	1660	1650	60000	27500	188	10160		
<i>Albert County.</i>														
					4	200	8	10	1700	900	...	...	...	...
Grand totals	216	2557	96750	747	4663	139760	8163	21024	695200	367800	2186	115710		

Return showing the Quantity and Value of Fish, &amp;c.—New Brunswick—Continued.

Number.	Districts.	KINDS OF FISH.																	Number.	
		Salmon, fresh, lbs.	Salmon, preserved in cans, lbs.	Salmon, smoked, lbs.	Herring salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Loibsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and rounds, brls.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Hallibut, lbs.	Trout, lbs.	Shad, brls.	
1	Restigouche County.	53500									140							8000		
2		177800			1500	30000				20400	900	130						6000		
	Totals.	236300			1500	30000				20400	1130	130						14000		
1	Gloucester County.	107000	400	500	15400	60000	35500	3500	20	13200	130	2700						8000		
2		250000			40000	60000		20000	10	185000	200	45100	100				500	12000		
3		92000			9000	50000		15000	20	58000	160	9500	20				1000	5000	30	
4			8000	1000	11000	50000		20000	40	312000	150	22500	50				1600	30000	1000	
	Totals.	449000	8400	1500	75400	220000	35500	58500	90	648200	640	79800	170				26000	26000	30	
1	Northumberland County.																			
2		104500			5000	20000	10000	8000	40	40500	140	1200					2000	6000	50	
3		95000			4000	10000		50000	90	30000	140	300					3000	2000	150	
4		98500			200	1000		1500				170						5000	500	
	Totals.	398400		2500	9200	31000	10000	509500	130	75500	280	1070					5000	38000	1900	

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RETURN showing the Quantity and Value of Fish, &amp;c.—New Brunswick—Continued.

DISTRICTS.	KINDS OF FISH.																			
	Salmon, fresh, lbs.	Salmon, preserved in cans, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Loabsters, preserved in cans, lbs.	Loabsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sound, brls.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sound, lbs.	Halibut, lbs.	Trout, lbs.	Shad, brls.	Number.	
<i>Kent County.</i>																				
1 Richibucto, St. Louis, Carleton, &c.....	36800	280 1350	14800	32000	32000	16500 268000	70	155000 138	1410	6 1600	2400	1800	4000	6200 110	2800	2000	2000	2000	2000	1
2 Buctouche and vicinity.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
3 Cocagne and vicinity.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Totals.....	36800	280 1350	30800	82000	82000	16500 281000	245	325000 358	1610	6 1600	3700	2860	4000	11000 110	.....	.....	.....	.....	.....	4
<i>Westmorland County.</i>																				
1 Shediac, Moncton and Salisbury.....	2400	.....	35000	600000	1000000	15000	50	211000 250	150	.....	20	.....	.....	.....	.....	.....	15000	.....	.....	1
2 Botsford.....	.....	.....	15000	1000000	600000	1000	.....	528000 3000	150	.....	.....	.....	.....	.....	.....	.....	2000	.....	.....	2
3 Backville and Westmorland.....	1000	.....	1000	45000	400000	1000	10	4800 1000	40	.....	.....	.....	.....	.....	.....	.....	2000	600	.....	3
4 Dorchester.....	3500	.....	100	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2000	1600	.....	4
Totals.....	6900	.....	51100	1645000	5660000	17000	60	743800 4250	340	.....	20	.....	.....	.....	.....	.....	21000	2200	.....	.....
<i>Albert County.</i>																				
.....	3200	.....	210	4000	.....	.....	.....	.....	100	.....	.....	.....	.....	.....	.....	.....	8500	180	.....	.....
Grand totals.....	1126200	8680 5350	168210	2012000	5725000	866000	525	1732900 6758	83550	176 1775	10680	118960	110500	118500	4420	.....	.....	.....	.....	.....

RETURN showing the Quantity and Value of Fish, &amp;c.—New Brunswick—Continued.

DISTRICTS.	KINDS OF FISH.										FISH PRODUCTS.				TOTAL VALUE OF ALL FISH.	Number.
	Smelts, lbs.	Alewives or gaspereau, brls.	Bas, lbs.	Clams, brls.	Eels, brls.	Sardines, cans.	Oysters, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.		
<i>Restigouche County.</i>																
1 Above Dalhousie.....	475000	.....	.....	10	40	.....	.....	30000	20000	.....	80	.....	10	50	.....	1
2 Below Dalhousie.....	105000	.....	.....	10	50	.....	.....	2000	10000	.....	.....	20	400	250	.....	2
Totals .....	580000	.....	.....	20	90	.....	.....	32000	30000	.....	80	20	410	300	.....	
<i>Gloucester County.</i>																
1 Baresford and part of Bathurst.....	4500	.....	1500	100	40	.....	.....	20000	2500	15	300	270	2000	15000	.....	1
2 Caraquet, New Bandon and part of Bathurst.....	380000	.....	13000	1000	200	.....	400	22000	125000	400	1000	16000	8000	20000	20	2
3 Saumarez, Inkerman and Shippegan mainland .....	350000	2000	2000	5000	150	.....	25	7000	12000	25	700	2300	2000	2000	28	3
4 Shippegan and Miscou Islands .....	240000	.....	10000	1000	100	.....	.....	3000	10000	40	500	7500	7000	10000	20	4
Totals .....	974500	2000	26500	7100	490	.....	425	52000	149500	480	2500	29070	19000	47000	68	
<i>Northumberland County.</i>																
1 Neguac, and vicinity .....	800000	100	10000	400	20	.....	2800	.....	30000	.....	.....	300	7000	5000	.....	1
2 Bay du Vin and vicinity .....	1000000	500	5000	100	100	.....	4000	15000	150000	.....	500	.....	6000	5000	.....	2
3 Chatham and vicinity .....	1700000	450	30000	50	30	90000	2500	20000	1250000	.....	.....	.....	20	3000	.....	3
4 South-west and North-west Miramichi Rivers .....	.....	1000	75000	.....	350	.....	.....	35000	10000	.....	.....	.....	.....	.....	.....	4
Totals .....	3500000	2050	120000	550	500	90000	9400	35000	1410000	.....	500	300	13020	13000	.....	
														</		

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RETURN showing the Quantity and Value of Fish, &amp;c.—New Brunswick—Continued.

Districts.	Number.	KINDS OF FISH.										FISH PRODUCTS.				TOTAL VALUE OF ALL FISH.	Number.
		Smelts, lbs.	Alewives or gaspereau, brls.	Bas, lbs.	Clams, brls.	Eels, brls.	Sardines, cans.	Oysters, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.		
<i>Kent County.</i>																	
1 Richibucto, St. Louis, Carleton, &c.	1000000	1415	25800	100	425	410	29800	120000	5	220	2000	28000	4200	40	230,287 00	1	
2 Buctouche, and vicinity	600000	400	1000	1000	100	2000	5000	40000	...	800	200	2000	5500	56	142,285 00	2	
3 Cocagne, and vicinity	260000	250	1000	4000	100	1500	2000	50000	...	400	50	2000	4000	36	74,195 00	3	
Totals	1860000	2065	27800	14100	625	3910	36500	210000	5	1420	2250	6500	13700	132	446,767 00		
<i>Westmorland County.</i>																	
1 Shediac, Moncton and Salisbury	890000	500	3500	1000	100	400	...	12000	...	500	...	19000	28000	20	308,200 00	1	
2 Botsford	160000	100	1000	100	30	150	...	10000	500	...	...	15000	10000	12	244,335 00	2	
3 Sackville and Westmorland	75000	150	2000	60	50	175	1000	10000	1000	...	...	3000	3000	20	113,685 00	3	
4 Dorchester	...	...	...	...	40	...	...	3000	...	100	...	100	...	...	18,080 00	4	
Totals	1115000	750	6500	1160	220	725	1000	35000	1500	600	100	39000	41000	52	684,300 00		
<i>Albert County</i>																	
Grand totals	8031900	6365	181300	22930	1970	90000	14460	1899500	1985	5160	28790	75030	115000	252	2,840,664 00		

## RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 2, New Brunswick, for the Year 1901.

Kinds of Fish.	Quantity.	Price.		Value.
		\$	cts.	\$ cts.
Salmon, fresh .....	Lbs. 1,126,200	0	20	225,240 00
" preserved in cans .....	" 8,680	0	15	1,302 00
" smoked .....	" 5,350	0	20	1,070 00
Herring, salted .....	Brls. 168,210	4	00	672,840 00
" fresh .....	Lbs. 2,012,000	0	01	20,120 00
" smoked .....	" 5,722,000	0	02	114,440 00
Mackerel .....	Brls. 525	15	00	7,875 00
" fresh .....	Lbs. 866,000	0	12	103,920 00
Lobsters, preserved in cans .....	" 1,732,900	0	20	346,580 00
" in shell .....	Cwt. 6,758	5	00	33,790 00
Cod .....	" 83,550	4	00	334,200 00
" tongues and sounds .....	Brls. 176	10	00	1,760 00
Haddock .....	Cwt. 1,775	3	00	5,325 00
Hake .....	" 10,680	2	25	24,030 00
" sounds .....	Lbs. 11,860	0	50	5,930 00
Halibut .....	" 110,500	0	16	11,050 00
Trout .....	" 118,500	0	10	11,850 00
Shad .....	Brls. 4,420	10	00	44,200 00
Smelts .....	Lbs. 8,031,900	0	05	401,595 00
Alewives .....	Brls. 6,865	4	00	27,460 00
Bass .....	Lbs. 181,300	0	10	18,130 00
Clams .....	Brls. 22,930	2	00	45,860 00
Eels .....	" 1,970	10	00	19,700 00
Sardines, preserved .....	Cans. 90,000	0	05	4,500 00
Oysters .....	Brls. 14,460	4	00	57,840 00
Flounders .....	Lbs. 156,500	0	05	7,825 00
Frost fish or Tom cod .....	" 1,899,500	0	05	94,975 00
Squid .....	Brls. 1,985	4	00	7,940 00
Coarse fish .....	" 5,160	2	00	10,320 00
Fish oil .....	Galls. 28,790	0	30	8,637 00
Fish as bait .....	Brls. 75,030	1	50	112,545 00
Fish as manure .....	" 115,000	0	50	57,500 00
Seal skins .....	Pieces. 252	1	25	315 00
Total for 1901 .....				2,840,664 00
Total for 1900 .....				2,799,304 00
Increase .....				41,360 00

## SESSIONAL PAPER No. 22

## RECAPITULATION

Of the Number and Value of Vessels, Boats, Nets, Traps, &c., engaged in the Fisheries in District No. 2, **New Brunswick**, for the Year 1901.

Material.	Values.	Total.
	\$ cts.	\$ cts.
216 fishing vessels (2,557 tons).....	96,750 00	
4,663 fishing boats.....	139,760 00	
695,200 fathoms gill nets.....	367,800 00	
2 mackerel trap nets.....	2,000 00	
330 trawls.....	1,800 00	
220 bass nets.....	1,320 00	
2,186 smelt nets.....	115,710 00	
5,530 hand lines.....	4,190 00	
		729,330 00
214 canneries.....	112,060 00	
221,000 lobster traps.....	194,050 00	
		306,110 00
200 freezers and ice houses.....	59,600 00	
442 fish and smoke houses.....	47,480 00	
49 piers and wharfs.....	13,600 00	
76 tugs and smacks.....	26,000 00	
860 smelt shanties.....	12,880 00	
		159,560 00
Grand total.....		1,195,000 00

## Number of fishermen employed in this district:

Men in fishing vessels .....	747
" " boats .....	8,163
Persons in lobster canneries.....	4,788
Total ... ..	13,698



## RECAPITULATION

RETURN of the Yield and Value of the Fisheries in District No. 3, New Brunswick,  
Comprising the Counties of King's, Queen's, Sunbury, York, Carleton and  
Victoria, for the Year 1901.

Kinds of Fish.		Quantity.	Price.	Value.
			\$ cts.	\$ cts.
Salmon, fresh.....	Lbs.	78,550	0 20	15,710 00
Trout, fresh.....	"	90,000	0 10	9,000 00
Herring, salted.....	Brls.	250	4 00	1,000 00
Shad.....	"	1,577	10 00	15,770 00
Alewives.....	"	3,293	4 00	13,172 00
Eels.....	"	125	10 00	1,250 00
Bass.....	Lbs.	8,000	0 10	800 00
Pickarel.....	"	180,500	0 05	9,025 00
Sturgeon.....	"	2,000	0 10	200 00
" caviare.....	"	100	0 50	50 00
Mixed and coarse fish.....	Brls.	775	2 00	1,550 00
Total.....				67,527 00

## RECAPITULATION

Of the Number of Vessels, Boats, Nets, &c., engaged in the Fisheries of District No. 3,  
New Brunswick, for the Year 1901.

Material.	Value.	Total.
	\$ cts.	\$ cts.
3 fishing vessels (66 tons).....	1,600 00	
630 fishing boats.....	14,600 00	
172 canoes.....	1,720 00	
2,220 gill nets (66,500 fathoms).....	40,750 00	58,670 00
33 ice houses.....	2,800 00	
46 Fish houses.....	2,900 00	5,700 00
Total.....		64,370 00

NOTE. — Details of these fisheries by counties will be found in the general recapitulation, p. 207 to 211.

## SESSIONAL PAPER No. 22

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of all Fishing Materials, &c., used in the whole Province of New Brunswick, for the Year 1901.

COUNTIES.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.											
	Vessels.			Boats.			Gill Nets.			Seines.			Trap Nets.		Trawls.		Weirs.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.
<i>District No. 1.</i>																		
1 Charlotte.	89	1375	4425	359	1017	46456	1225	923	29558	9940	366	11239	21095	499	4963	374	146350	1
2 St. John.	6	140	3000	30	515	27000	850	8380	338200	275000	28	2380	7400	245	8550	42	18200	2
<i>District No. 2.</i>																		
3 Albert.					4	200	8	10	1700	900								3
4 Westmorland.					965	26800	1660	1650	60000	27500								4
5 Kent.	1	20	500	3	1109	34360	1725	9750	188900	39000				40	550			5
6 Northumberland.	6	83	2450	22	670	20800	1100	2050	179000	132500								6
7 Gloucester.	207	2398	91800	714	1690	53000	3270	7400	240000	121000			2	2000	1250			7
8 Restigouche.	2	56	2000	8	225	4600	400	164	25600	26000								8
<i>District No. 3.</i>																		
9 Victoria.					60	500	100	40	1000	500								9
10 Carleton.					30	300	60	20	500	250								10
11 York.						125	2500	240	6000	4000								11
12 Sunbury.					40	800	4	60	1200	13000								12
13 Queen's.	1	40	800	4	205	4100	400	900	27000	15000								13
14 King's.	2	26	800	4	150	6000	300	630	19000	14500								14
Totals.	314	4138	145775	1144	6825	227816	11558	32547	1129458	693490	394	13619	28495	2	2000	1074	15313	164550

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats and other Fishing Materials, &c.  
**New Brunswick—Continued.**

Number.	COUNTIES.	FISHING GEAR OR MATERIALS— <i>Con.</i>				LOBSTER PLANT.				OTHER FIXTURES USED IN FISHERIES.									
		Smelt Nets.		Hand Lines.		Canneries.		Traps.		Number of hands em- ployed.		Freezers and Ice Houses.		Smoke and Fish Houses.		Piers and Wharfs.		Tugs, Steamers & Smacks.	
		Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.
		Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
<i>District No. 1.</i>																			
1	Charlotte.....	18	150	1500	750	7	15100	20620	17626	223	5	5000	671	139550	249	44300	9	4000	1
2	St. John.....							10000	10000		12	3000	57	35000	42	21000			2
<i>District No. 2.</i>																			
3	Albert.....	188	10160	240	110	74	26500	58000	50200	1624	65	1500	1	30	16	4700	2	2000	3
4	Westmorland.....	675	27650	1150	480	57	17960	54900	47150	1005	16	8200	27	11800	18	700	3	8000	5
5	Kent.....	885	59000	270	365	14	14000	14500	11600	340	49	23500	120	11400			23	8000	6
6	Northumberland.....	250	8800	3820	3220	67	52000	89400	81500	1738	56	15900	126	20450	14	8000	44	4500	7
7	Gloucester.....	188	10100	50	15	2	1600	4200	3600	81	14	10600	3	500	1	200	4	3600	8
<i>District No. 3.</i>																			
9	Victoria.....																		9
10	Carleton.....																		10
11	York.....																		11
12	Sunbury.....																		12
13	Queen's.....																		13
14	King's.....																		14
Totals.....		2204	115860	7030	4940	221	127160	251620	221676	5011	250	70400	1216	224930	340	78900	85	30000	

## SESSIONAL PAPER No. 22

RECAPITULATION showing the Quantity and Value of Fish, &amp;c.—New Brunswick—Continued.

COUNTIES.	KINDS OF FISH.														Number.				
	Salmon, fresh, lbs.	Salmon, preserved in cans, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lober, preserved in cans, lbs.	Lober, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.		Haddock, smoked in an haddie, lbs.	Hake, dried, cwt.	Hake, sounds, lbs.	Pollock, cwt.
District No. 1.																			
1 Charlotte.....	2000			5458	6000000	6431050			109440	8732	*6254	686100	362800	10274	7265	25837	11700	1	
2 St. John.....	215450		240		32000					2115	845		800000	3760		50	2		
District No. 2.																			
3 Albert.....	3200		210		4000					100							3		
4 Westmorland.....	6900		51100		1645000	5669000	17000	60	743800	4250	340			20			4		
5 Kent.....	36800	280	30800		82000	10500	281000	245	325000	358	1610	6		3700	2850		5		
6 Northumberland.....	394000		9200		31000	10000	509500	130	75500	280	1670			1700	1000		6		
7 Gloucester.....	448000	8400	75400		220000	35500	58500	90	568200	640	79800	170		5280	8000		7		
8 Restigouche.....	236300		1500		30000				20400	1130	130						8		
District No. 3.																			
9 Victoria.....	9000																9		
10 Carleton.....	7000																10		
11 York.....	30000																11		
12 Sunbury.....	2550																12		
13 Queen's.....	5000																13		
14 King's.....	25003		250														14		
Totals.....	1422200	8680	5350	174158	8044000	12150050	866000	525	1842340	17605	90659	176	686100	5000	1162800	24714	19125	25887	122200

\* Add also 321,000 lbs. fresh cod.



SESSIONAL PAPER No. 22

## RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of New Brunswick,  
for the Year 1901.

Kinds of Fish.	Quantity.	Rate.	Value.	Total Values.
		\$ cts.	\$	\$ cts.
Cod, dried..... Cwt.	93,869	4 00	375,476 00	
Cod tongues..... Brls.	176	10 00	1,760 00	
				377,236 00
Haddock, fresh..... Lbs.	686,100	0 03	20,583 00	
" dried..... Cwt.	5,000	3 00	15,000 00	
" smoked, finnan haddies..... Lbs.	1,162,800	0 06	71,520 00	
				106,103 00
Hake..... Cwt.	24,714	2 25	55,606 50	
" sounds..... Lbs.	19,125	0 50	9,562 50	
				65,169 00
Pollock..... Cwt.	25,887	2 00	51,774 00	
Tom cod or frost fish..... Lbs.	1,909,500	0 05	95,475 00	
Halibut..... "	122,200	0 10	12,220 00	
Flounders..... "	163,500	0 05	8,175 00	
Salmon, fresh..... "	1,422,200	0 20	284,440 00	
" preserved in cans..... "	8,680	0 15	1,302 00	
" smoked..... "	5,350	0 20	1,070 00	
				286,812 00
Trout..... "	217,500	0 10	21,750 00	
Smelts..... "	8,033,220	0 05	401,661 00	
Herring, salted..... Brls.	174,158	4 00	696,632 00	
" fresh or frozen..... Lbs.	8,044,000	0 01	80,410 00	
" smoked..... "	12,153,050	0 02	243,061 00	
" kippered..... Cans.	136,600	0 10	13,660 00	
				1,033,793 00
Sardines..... Brls.	234,628	2 00	469,256 00	
" preserved..... Cans.	1,715,000	0 05	85,750 00	
				555,006 00
Shad..... Brls.	6,547	10 00	65,470 00	
Alewives..... "	20,408	4 00	81,632 00	
Kels..... "	2,235	10 00	22,350 00	
Pickarel..... Lbs.	180,500	0 05	9,025 00	
Sea Bass..... "	189,300	0 10	18,930 00	
Mackerel, fresh..... "	866,000	0 12	103,920 00	
" salted..... Brls.	525	15 00	7,875 00	
				111,795 00
Sturgeon..... Lbs.	2,000	0 10	200 00	
" caviare..... "	100	0 50	50	
				250 00
Oysters..... Brls.	14,460	4 00	57,840 00	
Clams..... "	24,800	2 00	49,600 00	
" preserved..... "	91,000	0 10	9,100 00	
				68,610 00
Scollops..... Cans.	65,000	0 15	9,750 00	
Squid..... Brls.	2,483	4 00	9,932 00	
Lotsters, preserved in cans..... Lbs.	1,842,340	0 20	368,468 00	
" fresh or alive..... Cwt.	17,605	5 00	120,566 00	
				489,034 00
Coarse and mixed fish..... Brls.	5,935	2 00	11,870 00	
" "..... "			6,690 00	
				18,560 00
Fish as bait..... Brls.	93,209	1 50	139,813 50	
" manure..... "	120,110	0 50	60,055 00	
Fish oil..... Galls.	45,670	0 30	13,701 00	
Seal skins..... No.	259	1 25	323 75	
				343 00
Total for 1901.....				4,193,264 50
Total for 1900.....				3,769,742 40
Increase.....				423,522 10

## RECAPITULATION

Of the Fishing Vessels, Boats, Nets and other Materials used in the Fishing Industry  
of New Brunswick. for the Year 1901.

Articles.	Value.	Total.
	\$	\$
343 Fishing vessels (4,138 tons).....	145,775	
6,825 " boats.....	227,816	
32,547 Gill nets (1,129,458 fathoms.) ...	693,490	
394 Seines (13,619 fathoms.) .....	28,495	
2 Trap nets.....	2,000	
2,204 Smelt bag nets.....	115,860	
220 Bass nets.....	1,320	
416 Weirs.....	164,550	
1,074 Trawls.....	15,313	
7,030 Hand lines.....	4,940	
		1,399,559
221 Lobster canneries.....	127,160	
251,620 " traps.....	221,676	
		348,836
5 Sardine canneries.....	41,000	
2 Clam ".....	600	
1 Fish guano factory.....	5,000	
4 Fish curing establishments.....	7,000	
25 Fish pressee.....	3,000	
250 Fish freezers and ice house.....	70,400	
1,216 Smoke and fish houses.....	224,930	
340 Fishing piers and wharfs.....	78,900	
85 " tugs and smacks.....	30,000	
172 " canoes.....	1,720	
85 Weir scows.....	5,000	
60 Pile drivers.....	5,000	
860 Smelt shanties.....	12,880	
		485,430
Total .....		2,233,825

## APPENDIX No. 10.

## PRINCE EDWARD ISLAND

REPORT ON THE FISHERIES OF PRINCE EDWARD ISLAND FOR THE  
YEAR 1901, BY INSPECTOR J. A. MATHESON.

CHARLOTTETOWN, P.E.I., January 22, 1902.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to submit my report of the fisheries of this province for the season of 1901, together with tabulated returns showing, by counties and districts, the quantities and values of fish caught.

*Mackerel.*

I am pleased to report a large increase over last season in this branch. Large schools appeared off the North coast of this island early in July, and it was expected by fishermen that an old-time catch would be secured, but after August 1, they gradually fell off and only an average quantity was taken.

*Lobsters.*

I have much pleasure in reporting an increase of 165,423 lbs. over the season of 1900, especially when I find that less traps were used. This goes to show that the supply still holds good, contrary to the expectations of packers and fishermen.

*Herring.*

The catch was not as large as in former years, but enough was taken for lobster and mackerel bait for which this fish is principally used.

*Cod.*

I find a large falling off in this branch, especially in Prince and King's counties, owing chiefly to the fact that the same effort was not made to secure cod as in former years.

*Oysters.*

The catch has been in excess of that of last season. This was not expected as the season did not open until September 23, whereas the 15th was the former date of opening; the season was thereby shortened by seven days, but this had the effect of protecting the fish and securing better prices for the shipper and fisherman.

The beds in North river have been almost abandoned owing to the scarcity of fish which is caused by large numbers of mussels preying upon the oyster.

I would recommend the closing of West river and Pownal for two years.

*Smelts.*

This fishing for the past year was somewhat better than that of 1900, but as prices ruled low, it was not as profitable as in former years.

*Trout.*

Trout fishing was reported good. Although of very little commercial value to the province, it affords much pleasure to our sportsmen and to tourists.

*Hake.*

A large falling off is noticeable in this fishing. I ascribe this to the scarcity of bait and the lack of interest taken by the fishermen.

J. A. MATHESON.

*Inspector of Fisheries.*



RETURN showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of all Fishing Materials, &c., in the County of King's, Province of Prince Edward Island, for the Year 1901.

Districts.	Fishing Vessels and Boats.				Fishing Gear or Materials.						Kinds of Fish.							Number.					
	Vessels.		Boats.		Gill Nets.		Trap Net.		Trawl.	Salmon, fresh, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod, tongues and sound, brls.						
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Number.	Value.											Number.	Value.			
<i>King's County.</i>																							
1	Souris and Red Point.....	.....	.....	90	1450	120	300	6000	2400	50	100	165	1650	.....	400	80000	.....	200	52560	2500	20	1	
2	Bay Fortune.....	.....	.....	40	700	80	120	2400	960	25	50	20	200	200	80	4000	.....	12	28108	200	6	2	
3	Annandale.....	.....	.....	132	2000	300	400	8000	2400	20	40	25	250	150	60000	.....	30	121472	400	6	3		
4	Georgetown.....	4	120	2500	30	800	2000	2560	60	60	30	300	150	200000	150000	.....	100	95856	600	20	4		
5	Murray Harbour North.....	.....	.....	100	1500	160	250	5000	2000	20	200	20	200	100	200	.....	25	164064	400	10	5		
6	" " South.....	12	286	6000	76	100	2000	180	200	4000	1600	100	800	200	200	.....	20	62304	2000	30	6		
7	Morell and St. Peters.....	.....	.....	100	2000	200	300	6000	2400	.....	.....	300	11264	1500	35	7	.....	40	47568	900	8		
8	Naufrage.....	.....	.....	50	1000	100	150	3000	1200	.....	.....	15	150	40	40	.....	40	47568	900	8			
9	North Lake.....	.....	.....	60	1000	140	200	4000	1600	.....	.....	20	200	100	100	.....	130	42288	500	600	9		
10	East Lake.....	.....	.....	50	800	100	100	2000	800	.....	.....	15	150	150	150	.....	40	26208	450	10	10		
Totals.....		16	416	8500	106	802	14450	1520	2420	48400	17920	155	260	440	4200	1800	1520	344000	150000	897	751692	8850	137
Values.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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## SESSIONAL PAPER. No. 22

RETURN showing the Quantity of Fish, &amp;c.—Prince Edward Island—Continued.

Number.	Districts.	KINDS OF FISH.																	TOTAL VALUE OF ALL FISH.	Number.	
		Haddock, dried, cwt.	Hake, dried, cwt.	Hake, smoked, lbs.	Pollock, cwt.	Hallibut, lbs.	Trout, lbs.	Smelt, lbs.	Alwives or gaspereau, brls.	Clams, brls.	Kels, brls.	Caplin, brls.	Oysters, brls.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.			Fish as manure, brls.
<i>King's County.</i>																					
1	Souris and Red Point.....	160	1500	3000			1000	1000		25	15	440		1000	200	100	2000	600	100	35,667 00	1
2	Bay Fortune.....		200	400			2000	3000		40	5	30	24	600	100	50	200	300	100	9,047 60	2
3	Annandale.....		10	300			4000	1000		10	5			2000	200	100	400	1500	50	32,614 40	3
4	Georgetown.....	60	300	600	30	400	2000	10000	200	20	60			2000	200	150	450	1350	100	35,746 20	4
5	Murray Harbour North.....		100	200			1000	1000	40	15	5			2000	50	50	700	2000		39,642 80	5
6	" " South.....	100	2000	4000		600	500	2000		10	10			1000	200	100	2000	1030	100	32,255 80	6
7	Morell and St. Peters.....	40	600	1200	30	300	10000	8000	100	20	45			1000	100	50	1000	1330	50	41,412 80	7
8	Naufrage.....	30				50	1000	1000			3	10			50	40	150	510		12,968 60	8
9	North Lake.....	40				600	3000	500	200		5	30			100	60	200	420		15,462 60	9
10	East Lake.....	60	300	600			1000	1000			15	20			200	100	300	400	50	11,571 60	10
	Totals.....	500	5300	10600	60	1950	25500	28500	540	140	168	940	24	9600	1400	800	7400	9440	550		
	Values.....	1500	11925	5300	180	195	2550	1425	2160	560	1680	1470	96	480	5600	1600	2220	14160	275	286,819 40	

RETURN showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of Fish, &c.—Prince Edward Island—Continued.

DISTRICTS.	FISHING VESSELS.			FISHING BOATS.			FISHING GEAR OR MATERIALS.								Herring, fresh, lbs.	Herring, salted, brls.	Number.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Gill Nets.		Seines.		Trap Nets.		Trawls.					
								Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.				Value.	Number.
Queen's County.	1 Tracadie .....				150	4500	126	250	5000	1200			40	1600	40	160	700	20000	1
	2 New London .....				63	2000	120	100	2550	1000					12	75	435		2
	3 Point Prim .....																		3
	4 Rustico and Covehead .....	2	29	500	6	110	2450	275	90	2500	680	4	1000	200			4011		4
	5 Wheatley River .....				3	150	9	20	100	75									5
	6 Pownal .....				34	300	60												6
	7 Charlottetown .....				30	500	50												7
	8 Crapaud .....				30	800	60	15	125	100									8
	9 Lot 65 .....				85	1400	100	40	800	100							4000		9
	10 Bays and Rivers .....				40	400	80										10000		10
Totals .....	2	29	500	6	545	12500	880	515	11075	3155	8	1750	900	40	1600	235	19229	20000	
Values .....																	76916	200	

## SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish and Fish Products, &amp;c.—Prince Edward Island.—Continued.

DISTRICTS.	KINDS OF FISH.																	TOTAL VALUE OF ALL FISH.	Number.		
	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod tongues & sounde, cwt.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Halibut, lbs.	Trout, lbs.	Smelts, lbs.	Alewives or Gaspareau, brls.	Reels, brls.	Oysters, brls.	Squid, brls.	Fish oil, galls.	Fish as bait, brls.			Fish as manure, brls.	
<i>Queen's County.</i>																					
1	Tracadie	1370	240	59352	2179	40	10000	200	100	700	90000	600	48	2100	25	50	500	500	45,840 80	1	
2	New London	3500	386	64944	952	30	1000	20	1200	1000	6000	30	15	50	150	900	80	900	80	27,516 80	2
3	Point Prim	419	3000	101400	71	10	100	10	100	400	20000	200	200	25	100	600	400	600	400	25,236 00	3
4	Rustico and Covehead			111024	4438	60	100	100	100	500	25000	150	150	100	200	600	200	600	200	105,911 08	4
5	Wheatley River			40704	1300	10	100	100	100	300	5000	25000	5	5	2000	150	400	150	400	6,150 00	5
6	Pownal									1000	80000	100	10	2000	150	400	150	400	150	11,070 00	6
7	Charlottetown			23730	8		25000	100	100	5000	40000									1,250 00	7
8	Cranaud			119808																6,577 00	8
9	Lot 65.																			52,986 60	9
10	Bays and Rivers																			47,700 00	10
	Totals.	5289	3626	520992	8940	150	10000	200	120	1200	9400	326000	730	578	5675	125	400	3300	2280		
	Values	634	54390	104158	35760	1500	300	600	270	120	940	16300	2920	5780	22700	500	120	4950	1140		330,239 08

Return showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of all Fishing Materials, &c., in County of Prince, Province of Prince Edward Island, for the Year 1901.

Number.	FISHING VESSELS AND BOATS.				FISHING GEAR AND MATERIALS.						KINDS OF FISH.												
	Vessels.		Boats.		Gill-Nets.		SEINES.		TRAP NETS.		TRAWLS.		Herring, fresh, lbs.	Mackerel, fresh, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.							
	Number.	Value.	Men.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.												
DISTRICTS.																							
Prince County.																							
1	Tignish.			90	3845	204	111	2220	670	4	900	900	2	1500	10	50	2276	20000	300	100728	1		
2	Alberton			21	875	60	225	4500	1950	2	300	200							236	38808	2		
3	Lot 11			19	635	28	35	700	175						5	25	135			30240	3		
4	Narrows.			17	850	45	150	3000	550						2	40	2000		40	38700	4		
5	Grand River			14	210	28	12	1200	600								630	106000		19008	5		
6	Richmond Bay	1	12	300	4	200	4000	160	6	120	24						400	4000			6		
7	Summerside			19	360	25	2	40	8								50	600			7		
8	Traveller's Rest			105	1800	200	4	80	16								30				8		
9	Carleton.			28	1100	49	84	680	136											46080	9		
10	Tryon.			50	2775	90	83	1823	396											94600	10		
11	Malpeque.	1	19	200	4	90	3000	200	800	1600							1000			16800	11		
12	Egmont Bay			120	5065	244	170	3390	775								500			270482	12		
13	Brace and West Point.			19	570	53	36	720	144								45		36	12960	13		
14	Mininogash			54	1760	129	146	2988	727	1	300	300			37	400	630		592	66896	14		
15	Nail Pond.			54	2450	114	78	1730	651	2	560	1200			12	240	2400	14840	338	280020	15		
16	Skinner's Pond			53	980	80	51	1020	255						4	35	728	3360	4900	15	62592	16	
17	Brace to Higgin's Wharf.			16	800	32	35	700	140								1000	10000	500	8	31632	17	
18	Bidford and Trout River.			3	60	8												2000			3840	18	
19	River lots 5 and 6			2	75	6	8	160	42	5	160	120					70	30400	12			19	
20	Wellington			5	140	10	2	40	10								40					20	
Totals.		7	151	2600	41	978	31440	1660	1388	26911	8969	14	2210	2720	2	1500	70	790	11934	50404	1577	1113386	
Values																		49736	6048	23655	222677		

## SESSIONAL PAPER No. 22

Return showing the Quantity of Fish &amp;c.—Prince Edward Island—Continued.

Districts.	KINDS OF FISH.												FISH PRODUCTS.					TOTAL VALUE OF ALL FISH.	Number.			
	Loabers, fresh in shell, cwt.	Cod, dried, cwt.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked finnan haddies, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Hallbut, lbs.	Trout, lbs.	Smelts, lbs.	Alwives or gaspereau, lbs.	Fele, brie.	Oysters, brie.	Squid, brie.	Coarse and mixed fish, brie.	Fish oil, galls.	Fish as bait, brie.			Fish as manure, brie.	Seal skins, number.	
Prince County.																						
1 Tignish.		800	2000	50	1000	2000											500	2000		46139 68	1	
2 Alberton.		300									69800							905		18308 10	2	
3 Lot 3.											49000							300		9488 00	3	
4 Narrows		750			300						150000		50	2200			175	1500		88472 50	4	
5 Grand River		20									10000		10	2000			90	430		16733 60	5	
6 Richmond Bay		70											4	4050			30	300		18679 00	6	
7 Summerside.		20							300		4000		10	200				30		1481 00	7	
8 Traveller's Rest.											12000		12	5500				1000		22240 00	8	
9 Carleton											12000		6	50			38	1850	16	11576 00	9	
10 Tryon.							80				24947		5					300		23005 75	10	
11 Malpeque.		700									2000		2000				300	300		18980 00	11	
12 Egmont Bay																		5485		64323 90	12	
13 Brae and West Point.		16											6		30	45	770	800		4621 00	13	
14 Munningsh.		1030					280	759	2000		4500				92		425	350	50	31597 20	14	
15 Nail Pond.		487					510										64	900		79475 88	15	
16 Skinner's Pond		153					100				20000		40	100				300		18785 60	16	
17 Brae to Higin's Wharf											3000		21	2337			15	90		12636 40	17	
18 Bidford and Trout River		23									24000		13	431						10811 00	18	
19 River lots 5 and 6		20									4000		25	400			20			3913 00	19	
20 Wellington.																				2296 00	20	
Totals.	32	4369	2000	60	150	50	5200	1970	2759	2300	925	376447	40	159	19273	122	2422	17170	50	16		
Values	160	17476					4433	1379	230	93	18822	160	1590		77092	488	727	25755	26	32	453064	53



## SESSIONAL PAPER No. 22

## RECAPITULATION by Counties showing the Kinds and Quantities of Fish and Fish Products, in the Province of Prince Edward Island, for the Year 1901.

		KINDS OF FISH.																	TOTAL VALUE OF ALL FISH.		Number.																			
		KINDS OF FISH.																	Seal skins, number.		cts.																			
		KINDS OF FISH.																	Fish as manure, brls.		Fish as bait, brls.		Fish oil, galls.		Fish as manure, brls.		Seal skins, number.													
		KINDS OF FISH.																	Coarse and mixed fish, brls.		Squid, brls.		Tom cod or trout fish, lbs.		Oysters, brls.		Caplin, brls.		Bele, brls.		Clams, brls.		Alewives or gaspe-reau, brls.		Smelts, lbs.		Trout, lbs.		Halibut, lbs.	
		KINDS OF FISH.																	Fish as manure, brls.		Fish as bait, brls.		Fish oil, galls.		Fish as manure, brls.		Seal skins, number.													
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## RECAPITULATION

SHOWING Yield and Value of the different Fisheries of the Province of Prince Edward Island during the Year 1901.

Kinds of Fsh.	Quantity.	Price.	Value.
		\$ cts.	\$ cts.
Salmon fresh.....Lbs.	1,800	0 20	360 00
" preserved in cans....."	1,200	0 15	180 00
Herring, salted.....Brls.	32,683	4 00	130,732 00
" fresh.....Lbs.	783,440	0 01	7,834 40
" smoked....."	150,000	0 02	3,000 00
Mackerel, fresh....."	55,693	0 12	6,683 16
" salted.....Brls.	6,100	15 00	91,500 00
Lobsters, preserved in cans.....Lbs.	2,386,070	0 20	477,214 00
" fresh in shell.....Cwt.	32	5 00	160 00
Cod, dried....."	22,159	4 00	88,636 00
" tongues and sounds.....Lbs.	287	10 00	2,870 00
Haddock, fresh....."	12,000	0 03	360 00
" dried.....Cwt.	750	3 00	2,250 00
" smoked.....Lbs.	5,200	0 06	312 00
Hake, dried.....Cwt.	7,390	2 25	16,627 50
" sounds.....Lbs.	13,359	0 50	6,679 50
Pollock.....Cwt.	60	3 00	180 00
Halibut.....Lbs.	5,450	0 10	545 00
Trout....."	35,825	0 10	3,582 50
Smelts....."	730,947	0 05	36,547 35
Alewives.....Brls.	1,310	4 00	5,240 00
Clams....."	140	4 00	560 00
Eels....."	965	10 00	9,050 00
Caplin....."	490	3 00	1,470 00
Oysters....."	24,972	4 00	99,888 00
Tom cod or frost fish.....Lbs.	9,600	0 05	480 00
Squid.....Brls.	1,647	4 00	6,588 00
Coarse and mixed fish....."	845	2 00	1,690 00
Fish oil.....Galls.	10,222	0 30	3,066 60
Fish as bait.....Brls.	29,910	1 50	44,865 00
Fish as manure....."	2,880	0 50	1,440 00
Seal skins.....No.	16	2 00	32 00
Total.....			1,050,623 01

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## RECAPITULATION

SHOWING the number and Value and Vessels, Boats, Nets, Lobsters Canneries, Traps &c.,  
used in the fisheries of the Province of Prince Edward Island, season 1901.

Articles.	Value.	Total.
	\$ cts.	\$ cts.
25 fishing vessel (596 tons).....	11,600 00	
2,325 " boats.....	58,390 00	
4,323 gill-nets (85,386 fathoms).....	29,944 00	
22 seines (3,980 fathoms).....	3,620 00	
197 trap nets.....	3,350 00	
562 trawls ..	5,225 00	
480 dip nets.....	480 00	
294 smelt nets.....	3,930 00	
5,331 hand lines.....	3,720 00	120,259 00
225 lobsters canneries.....	95,520 00	
280,880 lobster traps.....	165,970 00	261,490 00
5 freezers and ice houses.....	6,100 00	
171 smoke and fish houses.....	6,120 00	
38 piers and wharfs ..	30,650 00	
11 steamers and smacks ..	970 00	43,840 00
Total value.....		425,589 00

## Number of persons employed in the fisheries of Prince Edward Island—

Men in fishing vessels.....	153
" boats.....	4,160
Persons in lobster canneries.....	2,728
Total.....	7,041

APPENDIX No. II.

FISH CULTURE

1902.

REPORT OF PROF. EDWARD E. PRINCE, COMMISSIONER AND GENERAL INSPECTOR OF FISHERIES FOR THE DOMINION OF CANADA, FOR THE YEAR 1902.

OTTAWA, December 31, 1902.

To the Honourable  
RAYMOND PRÉFONTAINE,  
Minister of Marine and Fisheries,  
Ottawa

SIR,—I have the honour to submit my annual report on the fish-breeding operations carried on under my charge in the various provinces of the Dominion. Ever since the system of fish culture has been placed in my hands I have had the privilege and pleasure of being able to report not merely the continued progress of the operations in the several hatcheries, but the marked growth and increased success of the results accomplished. Reference to the official reports of former years will show that a more or less serious reduction in the total output of fry had in some seasons to be recorded by my predecessor. Circumstances, which are difficult to control or overcome, occasioned a decrease of no less than fifty per cent in the results for some years, but by the judicious apportionment of the more critical part of the work amongst those officers possessed of special qualifications and experience I have been able to avoid the consequences of unfavourable circumstances and at the minimum of cost have been able to achieve maximum results. This year, thanks to the energy and care of the zealous officers in the various hatcheries, the output of fry compares most favourably with the magnificent results of the operations recorded during recent years. The quantity of fish planted far exceeds the average output per annum during the last ten years. The average quantity of fry, I may here state for the period of ten years, from 1893 to the present year, is 222,890,000, and a reference to the statistical statement which follows, in its usual place in my report, affords ample ground for the satisfaction which I have expressed above. Without a staff of officers zealous and earnest in their work, well-versed in the practical details of the technical methods employed, and unsparing in their attention to duty at the more critical times when the eggs or the young fish require constant attention, sometimes during the night as well as during the day, it would not be possible for me this year as indeed for several years past to present a report so favourable and satisfactory as the present.

I have in my former reports pointed out how critical at times are the conditions which arise in the work of artificial fish culture. Stormy or unfavourable weather may interfere with the procuring of parent fish, frost and snow may endanger the welfare of the eggs, during the time of spawning or shortly after, the supply of water in the hatchery tanks from sudden freshets may become muddy and hurtful, or it may run short and become insufficient. Such, and a score other dangers have to be faced, and officers require to be regardless often of their personal comfort and ease in order to achieve such splendid results as are shown in the report I am now able to submit. As examples of the hardships endured by conscientious and zealous officers I may refer to

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the case last winter of one officer, long in the department's service, who continuously for three days and three nights kept busily at work, without taking any real rest, during a freshet by which the welfare of all the eggs in his charge was endangered. The assistants were able to leave the hatchery for some hours, but the old and venerable head of the hatchery, I was assured by several reliable parties, never left his post except for a very short interval occasionally. Another officer, while in the midst of the spawning operations, found severe weather coming on, and it was difficult to continue work without danger not only to the boats, nets and gear in use, but to himself and his men. He was, indeed, frozen in before he completed his work, but he never relaxed until his hatchery was filled, and he was able to report results of the usual satisfactory character. Sometimes, as at the new Margaree hatchery, all the labour of many months and the valuable fish-eggs obtained at great expense and labour, may run risk of being wholly lost through evil-disposed persons, who criminally injure hatchery property, and attempt to destroy the season's work, happily not with such complete success as they intended. The particulars of this disaster are referred to in the report of the officer in charge. Difficulties arose both at Newcastle, Ontario, and at Gaspé, in the province of Quebec, in connection with the dam constructed to ensure a steady and ample supply of water to the hatchery in each case, and the steps taken by the officers in charge are referred to by Mr. F. H. Cunningham in his detailed report as Inspector of Hatcheries. Mr. Cunningham also gives a statement of the condition of the buildings, and of the repairs, additions, &c., carried out during the year, as well as a reference in each case to the operations carried on, the particulars of the operations being, as usual, fully stated in the reports of the officers in charge of the respective hatcheries.

Three new hatcheries were completed in time for the season's work, though one, on account of the early run of parent fish did not get into operation; but has done so during the present fall. The Gaspé and Margaree hatcheries were, however, successfully operated for the first time, the hatching trays being supplied with ova from other hatcheries, as there was not time to secure parent salmon locally and obtain the necessary amount of ova. In addition to the five species included in the ordinary hatching operations (Atlantic and Pacific salmon, lake whitefish, great lake trout and lobsters), six other fishes have also been dealt with, viz: black bass, pike-perch or pickerel (*doré*), B. C. steelhead and coho salmon, Pacific spotted trout and brook-trout. The quantities of these last named species were, however, sufficient only for supplying specially urgent demands, and, indeed, it would not be justifiable to undertake the hatching and distribution of these three kinds of fish generally for the reasons, which I have stated at length in a special report forming part of Supplement No. I to the Department's (Fisheries') Report last year. It is not necessary to do more than make a quotation, from my report just referred to, to demonstrate the very valid reasons for the exercise of care and caution. Respecting the first named species I said:—

'Let us take the brook-trout first, for in the opinion of most people it is a fish which can be regarded as out of place in no lake, river or stream. It is a mistake to introduce brook-trout into lakes in which whitefish are abundant, unless such lakes be of great extent, and contain considerable depths.

'In our North-west Territories, where fish have a very special value, a value hardly to be paralleled in other provinces less remote from the sea-coast or great lakes, a small lake stocked with whitefish is of far more importance than if stocked with trout. Not only will the same area of water furnish a greater amount of fish-food (if whitefish are planted not trout) but trout are predaceous, whereas whitefish are not. Trout devour other species, and even make war upon each other. It is no doubt impossible in most salmon rivers to exterminate the trout, or prevent their inroads; but every means should be taken to keep their numbers down and successfully check their super-abundance. A salmon river should, as far as possible, be a river for salmon, and no step should be neglected to make it so. On the other hand a trout stream is not to be despised; but a trout stream should be a stream for trout, a stream that is to say, in which every encouragement for their increase and welfare, and every protection against injury and depletion is afforded them. It is justifiable in a good trout stream to exclude and destroy salmon for, as that most enthusiastic of trout culturists, the late Sir James Gibson Maitland once declared,—“trout are most destructive to salmon spawn,”

Of the stocking of waters with black bass I maintain that while 'waters in which black bass abound are to be coveted, these fish should not be desired or planted everywhere. Brook-trout without question will inevitably disappear before the new and pugnacious marauders, and in most cases the trout are the preferable fish. As a matter of fact a lake will sustain far fewer bass than brook-trout, for the reason that the bass are inordinate feeders, and are on the offensive at all times, though especially bellicose in June and July when in most localities they are at the height of spawning, or jealously guarding their nests. Moreover the schools of young fry are great wanderers, and will make their way into all the neighbouring waters, if access be at all possible, passing through very small and shallow channels, when foraging for new feeding grounds.'

Again I say of the wall-eyed pike or pike-perch (*Stizostedion*). 'Such fishes are the wolves of the waters, and their introduction should be attempted with great care and knowledge of the waters into which they are to be placed. Where they become abundant they effectually kill off nearly all other kinds of fishes in the waters they inhabit, especially if they be isolated ponds or lakes where other fishes do not freely migrate into them. If such ponds or lakes contain only the coarser or less valuable forms of fishes, it may be well to stock them with maskinonge and wall-eyed pike, but if fine fish or other desirable game fish are abundant, it is certainly advisable to prevent these wolves beneath the waters from exterminating more valuable forms of life. Here again is decided need of biological investigations to determine what waters should be and what should not be stocked with such fish. Of pike, suckers, perch, catfish and similar coarse predaceous fish little need be said. There may be occasionally muddy ponds or isolated lakes where these fish could be safely planted without risk of their overrunning the whole of the waters of the adjacent district: but it may be laid down as a general rule that these fish do not need the aid of artificial fish-culture, and they should be kept as far as possible within their present range. To introduce them into virgin waters where they will soon inevitably hold supreme sway, outnumbering and overcoming in an incredibly short space of time the indigenous kinds of fish, is criminal.'

The comparatively limited quantity of brook-trout hatched at the Magog establishment was planted in selected waters, for stocking which they were, indeed, procured, and none were available for general distribution, such as would have been possible had there been an ampler supply. After an interval of ten years it was decided to again hatch a quantity of pickerel, or doré, at the Sandwich institution. These were planted in the Thames river, as the quantity (15 millions) did not admit of a more than local distribution, nor indeed is the species one which can be safely included in the scheme of general distribution. Again the experiment of shipping black bass to western waters, which I fully described in my report last year, was carried out once more this year. The department's bass hatching ponds at Belleville, Ont., again worked most successfully, and there was a sufficient quantity of partially grown fry hatched in the ponds and of parent bass, in the adult condition, to allow of a successful shipment. Through the willing and kind offices of Mr. D. McNicoll, second vice-president and general manager of the Canadian Pacific Railway Company, a special car for the purpose was gratuitously placed at the service of the department, and after being fitted up by the department with tanks and a newly devised apparatus for safely conveying the fish, was attached to the transcontinental train in October. The shipment was again placed in the charge of Mr. Cunningham, who had the assistance of Mr. Alexander Finlayson, and the fish, with insignificant loss, reached their distant destinations safely. Of nearly twenty applications for black bass, nearly two-thirds were for waters in British Columbia and the North-west Territories. The arrangements were about completed when it came to the knowledge of the department that the Provincial Government of British Columbia did not regard favourably the stocking of certain lakes in the province. In deciding upon the best localities for planting black bass, every risk of undesirable results to the native species had been carefully considered. Only waters in which prominent local people, chiefly sportsmen and anglers, had strongly urged the introduction of bass were considered at all, and of these, those in which no risk to the indigenous fish was involved were favoured. The widespread desire and influentially urged applications for black bass in the districts bordering on the international boundary line had moved the department to take action, and the only feature which seemed to

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me objectionable was that the bass might be found to spread into the adjacent U. S. waters, stocking them with fine game fish under conditions which insured little or no adequate protection. It has long been notorious, and admitted in published reports, that fish and game laws are little enforced, if enforced at all, in the western states to the south of the Dominion. While, of course, the department is competent to decide, more so, indeed, than any local authorities, such matters as these, on account of the extensive and varied means of information it possesses, yet the views transmitted from Victoria to Ottawa were at once given every attention, and the various applicants were without delay informed that under the circumstances their applications would not be filled this season. No doubt the haphazard and ill-informed methods of stocking Pacific waters with eastern species (bass, pike, suckers, carp, catfish, eels, &c.) in the states to the south of British Columbia had justly alarmed the authorities in Victoria, but Canadian fish culture, through all its thirty-five years of growth has been marked by care, knowledge and prudent administration. The shipment of black bass was confined mainly to the lakes in the National Park, Banff, N.W.T., while smaller quotas were sent to Buffalo lake, near Lacombe, and to Moyie lake. The superintendent of the park, Mr. Howard Douglas, had spared no effort to ensure the safe reception and planting of the fish, while Fishery Officer Harrison Young efficiently conveyed the bass from Calgary to their destination, in accordance with the ample and adequate arrangements directed by Mrs. Westhead, who had made application for several years for bass. A few weeks later another shipment was sent east in charge of Mr. Andrew Halkett, an expert officer of the department. Part of the bass were planted in a lake near St. John, N.B., and a portion was conveyed across the Bay of Fundy to Digby, N.S., and were planted in a lake selected by Major John Daly. In every case the planting of this fine game fish has been carried out by the department only in waters not directly communicating with salmon or trout rivers.

It is interesting to note that while the hatching and planting of black bass has never formed a prominent or essential feature in Canadian fish-culture, yet the trans-shipment of this species to distant parts of the Dominion or even to trans-Atlantic waters has been carried out from the commencement of the fish-breeding operations. It was in 1867 that Mr. Alexander Begg, of Victoria, B.C., was authorized by the department to secure black bass three inches long and convey them to England. The fish were captured in Lake Joseph by means of baited unbarbed hooks and carried from Gravenhurst, in the Muskoka district, to Montreal via Toronto. Thence they were shipped on board an Allan liner to Liverpool. Mr. Begg recently informed me that he carried the fish in capacious tin boilers, each holding 40 to 50 fish, and that they travelled well. They were taken to the Brighton Aquarium after their arrival in England, and as they survived in an active and healthy condition, they excited much attention. Ten or twelve years ago a few hundred thousand black bass were annually hatched at Newcastle; but it is only seven years ago since the first attempt was made to ship this species across the continent to western waters. The second, a very successful one, was made last year, as fully detailed in my 1901 report, and the present, a third shipment, has met with even more success.

There is one branch of our fish-culture work which can be referred to with special satisfaction. It is the privilege afforded the department for extending courtesies to sister portions of the empire. On two previous occasions the eggs of Canadian fishes have been shipped to New Zealand, Tasmania and New South Wales, and since the publication of my last report intimation has been officially received that a third shipment sent in October, 1901, to Hobart, Tasmania, and Wellington, New Zealand, arrived in a satisfactory condition. Two years ago the B.C. salmon eggs shipped per ss. *Warrimo* from Vancouver to Sydney, N.S.W., for Wellington, New Zealand, turned bad in transit, and *en route* at Honolulu it was found that while the upper trays of eggs were in good condition, the lower ones had died and undergone putrefaction. When the Premier of Tasmania (Hon. N. E. Lewis) applied through the Right Honourable the Premier of Canada in 1901 for a supply of Pacific salmon eggs, arrangements were made for a trans-Pacific shipment. I was at Canso, N.S., when a further request supplementing that of Premier Lewis came asking that the eggs be shipped as early as possible. Supplies of ova can, of course, only be secured when the spawning season

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arrives. I made all the necessary arrangements so that this application from Tasmania as well as one from Wellington, New Zealand, could be supplied. After much correspondence with the resident agent for New Zealand in San Francisco, it was arranged that a million sockeye salmon eggs should be handed over to the care of Mr. Alexander Morton, M.P., who left Sydney, N.S.W., about the middle of August to take charge of them, and that three or four hundred thousand of the eggs of the same species of salmon should be shipped to New Zealand.

The latter were packed in eight boxes, each box containing eight trays, while each tray held about 4,000 eggs, hence the total quantity packed was 432,000 for New Zealand. Mr. T. Robinson, Inspector Sword's assistant, took charge of these eggs in transit to San Francisco via Victoria, while Mr. Morton, M.P., superintended the quota of eggs sent direct to the State of Tasmania, early in October. It is extremely satisfactory to report that both shipments proved on the whole highly successful and satisfactory. The Hon. N. F. Lewis, in a letter, dated November 14, informed the Hon. the Minister that the salmon ova were 'landed in Tasmania in a satisfactory condition,' and he adds, 'the officer deputed to take charge of this consignment speaks very highly of the assistance rendered to him by your inspector, and all the other officers, with whom he was brought in contact. Permit me to convey to you the deepest thanks of the people of Tasmania for the valuable gift your government has been good enough to make to this State.' Similarly the ova sent in charge of officer Robinson and handed over to a United States official at San Francisco reached New Zealand with a good percentage of the eggs surviving notwithstanding the long voyage, and the trying circumstances of extremes of climate experienced by the shipment. Secretary W. T. Glasgow, Marine Department, Wellington, wrote on December 16, 1901, that the eggs duly arrived, and notwithstanding serious losses *en route* about 160,000 good healthy eggs were laid down in the hatchery near Wellington. It was found that no less than 30,000 sickly and bad eggs had to be removed from the trays at San Francisco. The cases were then placed in the cool chamber of the mail steamer, and received every attention on the voyage to New Zealand. On arrival at their destination, the eggs were unpacked without delay and over 300,000 eggs were found to have succumbed. It was found that the best results were secured in the cases where more damp moss had been used, and the eggs were less advanced. 'I may add for your information,' said the secretary, 'that the experience of this department in connection with the importation of ova from Great Britain and the United States of America shows that for long distance carriage it is advisable to insulate the cases, that a less number of trays than were in the Canadian cases should be put in the cases, and that the ova should not be laid directly on the perforated bottoms of the trays, but should be packed between layers of moss, that the cloth-covering of the ova should be of very thin material, and that more moss should be used in packing.' The letter concluded with a warm expression of thanks for the kindness and courtesy of the Canadian Government in sending this further supply of eggs.

While the hatching of young fish from ova artificially fertilized from spawn taken from wild parent fish is and always has been chiefly relied upon in our fish-culture work in Canada, there are other methods, some of which have been also tried, while others again have never been adopted in our system. Broadly speaking the stocking of waters may be carried out in eight ways:—

- By (1) Planting fry artificially hatched from artificially fertilized eggs.
- (2)       "       naturally       "       "       "
- (3)       "       naturally hatched from naturally fertilized eggs.
- (4)       "       naturally hatched from naturally fertilized eggs but reared artificially.
- (5) Planting fingerlings and half grown fish hatched on spawning reserves.
- (6)       "       "       "       procured in the natural breeding resorts.
- (7) Planting young larvæ or newly hatched fish bred naturally.
- (8)       "       adult fish transferred from other waters.

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Each of these methods has its merits and its possible objections ; but these cannot be discussed or decided in the present report. I can only repeat what I have stated in previous reports and publications that the planting year after year for over thirty years of countless numbers of fry of the more valuable economic fishes must have benefited the waters of the Dominion in a substantial degree.

In order to afford, at a glance, information respecting the actual out-put at each hatchery, the following comparative table has been prepared and indicates in the separate columns, not only the quantities of young fish planted in each case ; but the number of eggs in an advanced state of incubation transferred from and received by the various hatcheries.

Number.	Name of Hatchery.	Number of Fry distributed.	Number of Eggs sent to other Hatcheries.	Number of Eggs received from other Hatcheries.	Species of fish.
1	Bedford, N.S. ....	960,000			Atlantic salmon.
2	Bay View, N.S. ....	120,000,000			Lobsters.
3	Margaree, N.S. ....	95,000		1,500,000	Atlantic salmon.
4	St. John River, N.B. ....	998,000			" "
5	Miramichi, N.B. ....	1,700,000	1,100,000		" "
6	Restigouche, N.B. ....	2,310,000	400,000		" "
7	Gaspe, P.Q. ....	734,000			" "
8	Tadoussac, P.Q. ....	2,700,000	100,000		" "
9	Magog, P.Q. ....	360,000		35,000	" "
	" .....	565,000		370,000	Lake trout.
	" .....	10,000			Speckled trout.
10	Newcastle, Ont. ....	650,000			Great Lake trout.
11	Sandwich, Ont. ....	15,000,000			Pickarel or doré.
	" .....	85,000,000	30,000,000		Lake whitefish.
12	Ottawa, Ont. ....	1,245,000		1,250,000	Great Lake trout.
13	Bon Accord, Fraser R., B.C. ....	166,000			Cohoos, steelheads and spotted trout.
	" .....	9,048,000	1,400,000		Sockeye salmon.
14	Granite Creek, Shuswap Lake, B.C. ....	6,760,000			" "
15	L. Lakelse, Skeena R., B.C. * ..				" "
16	Selkirk, Man. ....	23,000,000		30,000,000	Lake whitefish.
	Totals. ....	271,401,000	33,000,000	33,155,000	

\* Completed too late to operate.



## FISH CULTURE.

STATEMENT showing the Places where and the Years in which the several Fish Hatcheries have been erected; also the number of fry distributed from each Establishment annually since they were built, including the year 1902.

Number	YEAR.	ONTARIO.			QUEBEC.				NEW BRUNSWICK.		Number
		Newcastle.	Sandwich.	Ottawa.	Magog.	Tadoussac.	Gaspé.	Restigouche.	Miramichi.	St. John River.	
		Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	
1 1868-73.....		1,070,000									1
2 1874.....		350,000									2
3 1875.....		650,000									3
4 1876.....		700,000	8,000,000			60,000	110,000	100,000	60,000		4
5 1877.....		1,300,000	8,000,000			150,000	50,000	600,000	150,000		5
6 1878.....		2,605,000	20,000,000			1,180,000	1,051,000	300,000	60,000		6
7 1879.....		2,602,700	12,000,000			707,000	650,000	600,000	320,000		7
8 1880.....		1,923,000	13,500,000			1,250,000	1,597,000	1,015,000	665,000		8
9 1881.....		3,300,000	16,000,000			1,155,000	730,000	1,500,000	1,025,000		9
10 1882.....		4,841,000	44,000,000		200,000	334,000	500,000	740,000	770,000		10
11 1883.....		6,053,000	72,000,000		975,000	660,000	530,000	1,400,000	640,000		11
12 1884.....		8,800,000	67,000,000		250,000	995,000	520,000	300,000	925,000		12
13 1885.....		5,700,000	38,000,000		100,000	720,000	889,000	940,000	795,000		13
14 1886.....		6,451,000	57,000,000		1,400,000	1,627,000	575,000	650,000	900,000		14
15 1887.....		5,130,000	56,500,000		675,000	900,000	630,000	1,380,000	945,000		15
16 1888.....		8,076,000	56,000,000		3,475,000	850,000	800,000	1,790,000	900,000		16
17 1889.....		5,846,500	21,000,000		2,800,000	1,600,000	450,000	1,230,000	1,250,000		17
18 1890.....		7,736,000	52,000,000	5,732,000	2,875,000	1,700,000	805,000	2,396,000	1,022,000		18
19 1891.....		7,897,500	75,000,000	7,043,000	3,050,000	1,300,000	1,000,000	1,750,000	1,503,000		19
20 1892.....		4,823,000	44,500,000	4,903,000	2,400,000	624,000	965,000	1,240,000	1,310,000		20
21 1893.....		9,836,000	68,000,000	6,208,000	3,600,000	2,060,000	910,000	883,000	975,000		21
22 1894.....		6,000,000	47,000,000	4,480,000	2,035,000	1,975,000	850,000	1,080,000	1,010,000		22
23 1895.....		5,200,000	61,000,000	3,210,000	3,350,000	2,060,000	675,000	2,885,000	1,200,000		23
24 1896.....		4,200,000	72,000,000	3,950,000	4,500,000	2,500,000	300,000	1,250,000	1,430,000		24
25 1897.....		4,325,000	71,000,000	4,100,000	4,500,000	3,272,000	1,100,000	2,100,000	1,588,000		25
26 1898.....		4,000,000	73,000,000	3,700,000	3,100,000	2,200,000		1,135,000	1,567,000		26
27 1899.....		5,175,000	90,000,000	3,450,000	3,098,000	2,123,000		2,025,000	1,605,000		27
28 1900.....		5,100,000	67,000,000	3,410,000	3,099,000	1,400,000		1,125,000	1,620,000		28
29 1901.....		6,500,000	100,000,000	1,245,000	3,135,000	2,950,000		1,750,000	1,800,000		29
30 1902.....					935,000	2,700,000	734,000	2,310,000	1,700,000		30
Totals.....		137,100,200	167,000,000	54,458,000	49,112,000	40,049,000	16,683,000	37,434,000	29,300,000	58,792,200	

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## FISH CULTURE.

STATEMENT showing the Places where and the Years in which the several Fish Hatcheries have been erected, &amp;c.—Continued.

Number.	YEAR.	NOVA SCOTIA.				P. E. ISLAND.	BRITISH COLUMBIA.		MANITOBA.	TOTALA.	Number.
		Bedford.	Sydney.	Margaree.	Lobster Hatchery, Bay View.		Fraser River.	Granite Creek, Sicomous.			
		Fry.	Fry.	Fry.	Fry.		Fry.	Fry.		Fry.	
1	1868-73.										1
2	1874.										2
3	1875.										3
4	1876.	335,000									4
5	1877.	1,000,000									5
6	1878.	1,400,000									6
7	1879.	1,740,000									7
8	1880.	730,000				500,000					8
9	1881.	680,000				375,000					9
10	1882.	850,000	315,000			1,000,000					10
11	1883.	800,000	659,000			1,210,000					11
12	1884.	1,000,000	853,000			1,000,000					12
13	1885.	670,000	772,000			1,100,000					13
14	1886.	950,000	1,179,000			400,000					14
15	1887.	4,230,000	1,415,000			500,000					15
16	1888.	4,390,000	1,559,000								16
17	1889.	3,850,000	2,034,000								17
18	1890.	3,860,000	1,933,000								18
19	1891.	2,550,000	1,000,000								19
20	1892.	2,620,000	690,000								20
21	1893.	3,180,000									21
22	1894.	3,805,000	298,000								22
23	1895.	3,815,000	195,000								23
24	1896.	4,225,000	243,500								24
25	1897.	5,450,000	496,000								25
26	1898.	3,000,000									26
27	1899.	4,025,000									27
28	1900.	3,970,000									28
29	1901.	3,980,000									29
30	1902.	960,000									30
	Totals . . . .	68,135,000	13,652,500	95,000	1,277,300,000	6,145,000	98,089,800	6,760,000	122,000,000	3,391,105,200	

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An increased annual appropriation, consonant with the more intelligent and rapidly growing appreciation of the work of the hatcheries has enabled the efficient staff of officers under me to accomplish the disproportionately large success which I am in a position to record. The Dominion now possesses no less than sixteen fine institutions which are a credit to the department, and if the three new hatcheries now in progress in New Brunswick (at Shemogue, and Shippegan Island) and in Prince Edward Island (near Charlottetown) are ready for operation during the coming season, as is intended, the Dominion will then possess no fewer than nineteen capacious hatcheries, capable of turning out annually a largely increased quantity of young fish for stocking the waters of the various provinces.

I annex the report of the inspector of hatcheries and the reports of the several fishery officers in charge of the hatcheries of the Dominion.

I have the honour to be,

Your obedient servant,

EDWARD E. PRINCE,

*Commissioner of Fisheries and General Inspector of Fisheries for Canada.*

## ANNEX A.

OTTAWA, December 17, 1902.

Professor E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—As inspector of fish hatcheries for the Dominion of Canada, I have the honour to submit my report on the condition of the various fish hatching establishments during the year just closed, and I make detailed reference to the hatching operations carried on.

*Newcastle Hatchery.*

The operations at this establishment were considerably interfered with during the early spring owing to an unprecedentedly heavy freshet, which carried away the dam and thus cut off the supply of water from the hatchery. The eggs were then all removed to the hatchery at Ottawa and being in a semi-hatched condition, the transfer was accomplished without injury and the hatching process was thus completed without serious loss. The fry were distributed in the waters that are usually supplied from the Newcastle hatchery.

During the summer a completely new structure has replaced the old dam, which is expected to remove all source of danger from future freshets. The wooden supply pipe has been replaced by iron piping and the gate-valve removed from the dam to the hatchery, which is a decided improvement to the internal arrangements. The building is now in good condition and no extensive repairs are needed.

*Sandwich Hatchery.*

This establishment has again had a very successful hatching season, the fry being distributed in splendid condition.

During the year considerable improvements to the building were effected, the engines being placed in new positions, and thus in addition to providing room for the new pump, gives more space for performing the many minor details that are ever cropping up in institutions of this kind.

In the spring a very successful hatching of pickerel eggs was accomplished at this hatchery, it having been estimated that fifteen millions of young pickerel were liberated.

The building is again filled with eggs and the outlook is bright for another season's profitable work.

No expensive repairs are needed, but before another season it will be necessary to replace some of the water supply troughs.

*Ottawa Hatchery.*

The success at this establishment is very gratifying this year, especially when the crowded condition of the eggs, owing to the transfer of those from Newcastle, is considered. The young fish were distributed in Ontario and Quebec waters in good condition.

As heretofore, many have visited the hatchery during the year and it appears that great interest is being taken by the public in the fish-breeding operations as conducted by the department.

*Magog Hatchery.*

Last season, in addition to the salmon trout eggs, a supply of salmon eggs were laid down and a successful season's work resulted.

The building was in great need of repairs and it was found necessary to completely overhaul the interior, and the much needed repairs were finished in time to receive the eggs for the current season's work. The building is now in first class condition and continued good results from the operations there may be looked for.

*Tadoussac Hatchery.*

This establishment has been very successful during the year and is doing good work for the Saguenay river and adjacent waters. The building is in fairly good repair, but the dam will probably need some overhauling during the coming summer.

Owing to the location of this hatchery, it is visited by large numbers of tourists during the summer months, and something might be done to add to the attractiveness of the place.

*Gaspé Basin Hatchery.*

This year completes the first season's operations at this hatchery. As previously stated, the eggs were procured from the department's retaining pond at Carleton, New Brunswick, and a successful season's work has resulted. The dam gave considerable trouble, but during the summer substantial repairs have been effected, which are expected to minimize danger from leakages and freshets in the future.

The results from the lobster hatching operations were not as successful as was expected, but now that the building is completed the success of next season's operations is anticipated.

*Restigouche Hatchery.*

The operations at this hatchery during the season have been successful and the usual large number of young salmon have been planted in the waters adjacent to the hatchery.

During the season a pond for the retention of young salmon, for a period of six months, has been constructed at a point adjoining the hatchery. It is expected that this pond will largely augment the good work now being done at this hatchery.

A small extension to the building, for the use of the caretaker, has also been built during the past season. The hatchery proper is in good repair and no expenditure is needed on its account.

*Miramichi Hatchery.*

This establishment is accomplishing its usual good work. During the past summer the fences surrounding the property have been repaired. The building is in fairly good condition, considering its age; but some repairs will be needed next summer to the small annex used as a kitchen by the officer in charge.

*Grand Falls Hatchery.*

The eggs for this establishment are procured from the retaining pond at Carleton, New Brunswick. The operations are conducted in a very satisfactory manner and the work accomplished is uniformly good.

During the past summer some repairs were made to the interior of the building.

*Bsdford Hatchery.*

This establishment is also supplied with eggs from the Carleton retaining pond. The past season has been successful and the hatchery is conducted satisfactorily.

*Bay View Hatchery.*

At this point a lobster hatchery is very satisfactorily and successfully conducted and the past season's operations have been very gratifying.

Some repairs will be needed during the coming summer.

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*Selkirk Hatchery.*

It is a pleasure to report that success crowned the efforts put forth by this department to produce good results at this establishment for this year. Last fall a shipment of white-fish eggs was sent from the east, accompanied by an experienced officer, who remained at Selkirk until the hatching process was completed and the fry successfully distributed.

During the past summer a new fence has been built around the government property, the supply pipe extended to the centre of the river and other much needed improvements effected.

*British Columbia.*

The hatcheries at Bon Accord and Granite creek have again had a very satisfactory season's operations. These hatcheries are now filled with eggs and conditions are very promising for further good work.

The latest reports received from the new hatchery completed during the past summer on the Lakelse river state that the required number of eggs had been procured to fill the hatchery and a very successful season is anticipated.

*Bay of Quinte Bass Pond—Ontario.*

The operations covering the hatching of small-mouthed black bass at this pond have proved very successful. Last spring a number of mature bass were placed in the retaining pond. These fish commenced spawning on May 13 and on the 27th of the same month young bass were seen in the pond. By the end of June the pond was literally alive with young fish.

This pond, with its supply of pure spring water and abundance of natural food, is particularly well adapted for the natural propagation of this species of the sporting variety of fish.

Owing to a phenomenal rainstorm which occurred in that section of the country during the latter part of the summer, the pond and subway overflowed, resulting in a large number of young fish being washed into the Bay of Quinté.

Last year's report contained a reference to a shipment of live bass from this pond to the waters of the North-west Territories and British Columbia, and the department was strongly urged to augment the work of last season by an additional shipment this year, to be confined to the waters of Manitoba and the North-west Territories. This was successfully carried out, and bass were planted in Moyie, Buffalo and Devil's lakes. Mature fish, weighing from three to five pounds, were planted in Devil's lake, and although these bass were carried a distance of two thousand three hundred miles and were five days in transit, they were liberated at their destination in splendid condition. The loss of fish on the whole trip was nominal and did not exceed ten per cent, and only two mature fish out of thirty succumbed on the journey. Of course, the conditions of the weather form an important factor when undertaking a trip of this character. A humid, close atmosphere is fatal to young fish when removed from their natural environments. This fact was fully proved when attempting a shipment of bass to the west on September 29 last. The weather turned so warm that it was necessary to postpone the journey pending the return of a cooler temperature. The Canadian Pacific Railway officials extended every assistance towards the success of the undertaking, and their kindness was fully appreciated by the officer in charge of the shipment. The fact might be mentioned that for eleven hundred miles of this journey it is impossible to procure any fresh water, and as it is not possible to carry sufficient water for this long distance, the difficulty is overcome by using a process in the car which enables the use of the same water as often as occasion may require. Without this device the difficulties of carrying fish such a long distance would be greatly increased.

In conclusion, I am able to report that the officers in charge of the various hatcheries have worked faithfully, with the result of making the past season's operations so generally successful.

Respectfully submitted,

F. H. CUNNINGHAM,  
*Dominion Inspector of Fish Hatcheries.*

## ANNEX B.

## 1.—BEDFORD HATCHERY, NOVA SCOTIA.

BEDFORD, N.S., November 8, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I beg to submit my annual report of the operations at Bedford hatchery for the season of 1902.

Last November, about one million salmon eggs were brought here from the retaining pond at St. John, N.B., and laid down in troughs. With but a small percentage of loss they were hatched and distributed as follows :—

Salter's River, Lunenburg Co., N.S.	80,000
Hoosers River, Halifax Co., N.S.	80,000
Sackville " "	80,000
Nine-Mile " "	60,000
Pennant " "	80,000
Rawden " "	80,000
Cornwallis " King's Co, N.S.	60,000
Gaspereaux " "	60,000
Annapolis " Annapolis Co., N.S.	120,000
Lake Paul " "	60,000
Carribou " Pictou, Co., N. S.	60,000
Cole Harbour River, Guysboro Co., N.S.	80,000
Scadouc River, Westmorland Co., N.B.	60,000
Total	960,000

750,000 eggs from the Carleton pond were laid down last week.

Salmon have been very plentiful during the past season, in the Bedford basin. Small quantities were taken in nets, during July, and some few were caught with fly in the pools of the Sackville river, above the hatchery. Some of those caught in nets were about twelve to fifteen pounds weight, but those caught in the river by rod did not exceed five pounds in weight.

Mr. T. McMullan, ex-M.P.P., of Colchester, who planted 10,000 rainbow trout in a lake in that county, informs me that they are growing rapidly, and to prevent extermination he has stopped public fishing in those private waters.

Some necessary repairs have been made during the summer to the hatchery, and it is now in good working order.

I am, sir, your obedient servant,

ALFRED OGDEN.

## 2.—ST. JOHN RIVER HATCHERY, NEW BRUNSWICK.

GRAND FALLS, N. B., November 17, 1902

Prof. EDWARD E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—In accordance with the rules of your department, and the directions contained in the circular of instructions from your office dated the 6th instant, I have the honour to make my annual report in connection with the work done and performed at the St. John river fish hatchery, under my supervision during the present year.

On October 26, 1901, according to instructions I went to the Carleton pond and as usual rendered assistance in spawning the salmon that were therein impounded. After the work was finished I returned home to the hatchery, having got my quota of eggs about 1,200,000 which were carefully carried in two separate lots to the hatchery and placed in the troughs where they were scientifically handled all through the winter. They yielded a gratifying percentage of young fish in the spring and were planted in the following named rivers and lakes situated in the counties specified.

*Distribution of the Fry.*

Maduxnakeag River, Carleton County.....	96,000
Butter Lake, Kings County.....	48,000
St. Croix River, Charlotte County.....	144,000
Tobique River, Victoria County.....	100,000
Skiff Lake, Carleton County.....	50,000
Salmon River, Victoria County.....	100,000
Dann Lake, Victoria County.....	10,000
St. John River in different localities.....	450,000
Total .....	998,000

*Repairs.*

After the fry were all out the usual process of cleaning, varnishing, painting, &c. was attended to, making preparation for the ensuing year. Considerable repairs were made in and around the hatchery in the course of the present season, such as renewing a portion of the floor, shingling the coal shed and a slight repairing of the roof of the hatchery also the repainting of the principal part of the exterior of the building, the tops of the troughs in the hatching room and some new stovepipes—all of those repairs being made by official sanction from the department. They were certainly much needed to keep the hatchery in good working order.

It is not necessary for me to make any reference to the work of stripping the salmon or the collection of the eggs, this year, at the Carleton pond, St. John, N. B. I received instructions from you to await intimation from St. John as to the date on which my quota of eggs would be ready and accordingly on November 4 I went to the Carleton pond, and received five cases of eggs. I conveyed them to the hatchery arriving on the 6th inst. and had them placed in the troughs the same night. Next day I started back with my five empty cases to have them again filled as arranged before I left St. John with the first lot. Three cases were then handed into my charge, and this was



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the total apportioned out to the Grand Falls hatchery, the eight cases containing in all about 1,000,000. These eggs being in good condition the resulting fry will be a great benefit to the community, as their distribution, as a rule is confined to the most favourable waters. There are exceptions at times. Frequently an application is made to the Fisheries Department for a given quantity of young fry for some place or locality where the waters are entirely unsuited to the fry asked for. If the better judgment of the officer be followed and employees refuse or demur to plant the fry in such waters, then neglect or disobedience of orders is charged against them, and they are sometimes reprimanded therefor. At other times it is not possible to comply with all the applications that are forwarded for the simple reason that the fry have got too old to be carried with safety such long distances as would be required to fill orders, therefore we are compelled in order to preserve the fry to put them into the waters most convenient and accessible. This establishment I consider at the present time to be in first class order for the purposes for which it was intended. It is supplied with a never-failing abundance of pure clear water, and is conveniently situated within about fifty rods of the famous St. John river, on its western bank and within four rods of the C. P. R. track, being provided with a special siding for its own use.

Notwithstanding the very great amount of both legal and illegal fishing in the inland rivers and lakes, the stock of fish inhabiting these waters has been fully kept up to the mark, and it seems to be the general opinion that such favourable results are to be attributed to the work of artificial fish-culture carried on in the fish-breeding establishments under your superintendence. All the foregoing brief report is most respectfully submitted.

I am, sir, your obedient servant,

CHAS. McCLUSKY,  
*Officer in Charge.*

### 3.—MIRAMICHI HATCHERY, N.B.

SOUTH ESK, N.B., December 1, 1902.

Prof. EDW. E. PRINCE,  
Commissioner of Fisheries,  
Ottawa.

SIR,—I beg to submit the following report upon the operations at this hatchery during the past year. I am pleased to state that the work has been attended with success, and that a large number of salmon fry have been planted in the Miramichi river and its tributaries.

At the time of making my last annual report, and as stated therein, there was 2,900,000 ova in the troughs of this hatchery. This large number of ova taxed the capacity of the hatchery to its utmost, and it was only by the greatest care that they were successfully carried through the winter season. During the first week in April the assistant officer, in obedience to your instructions, transferred 1,100,000 of these ova to the new hatchery at Margaree, Cape Breton. It is a regrettable fact that the fry hatched from these ova were afterwards destroyed by evil disposed persons, who entered the Margaree hatchery and scooped them from the breeding troughs to the concrete floor of the building. The ova remaining after the above number was trans-

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ferred to Margaree were hatched with an approximate loss of 100,000, leaving a balance of 1,700,000 fry, which were distributed in the following rivers:—

Main North-west Miramichi river. ....	450,000
Head waters of North-west river. ....	300,000
Main South-west Miramichi river. ....	250,000
Little South-west Miramichi river. ....	500,000
Renous river. ....	100,000
Mill stream. ....	80,000
Stewart's brook. ....	20,000
<b>Total. ....</b>	<b>1,700,000</b>

Owing to the impassable condition of the roads it was impossible to plant any fry in the Sevogle river this year. Consenting to the request of several fishermen, the Mill stream was examined, and, the conditions being found favourable, about 80,000 fry were planted therein, as shown by the above list. This stream can be counted on as a very good planting ground in the future, and it has the advantage of being only a short distance from the hatchery. Previous to this there were several obstructions upon it, but these have been removed during the past two years.

The conditions in which the fry were planted in the various streams and the manner in which the work was carried out has been highly spoken of by the resident fishermen as well as by the American anglers who were on the rivers during the time of distribution.

### *Repairs.*

When repairing the hatchery in 1901, there was no provision made to control the volume of water flowing from the supply tank into the hatching troughs, and as it was found necessary that some arrangement should be made for that purpose, a new system of taps was placed in the supply tank during the month of April. These taps have given perfect satisfaction, and the flow of water can now be regulated in each trough as required.

During the summer and autumn months, the outside of the hatchery was painted, and the clapboarding and windows repaired where necessary. The old building used as a storehouse, which was built about twenty-eight years ago, and which had become very dilapidated, was pulled down, and a substantial storehouse 16x40 feet erected in its stead. This new building, as well as the one used as a coal and wood house, was shingled all over, and are now first-class outbuildings. Owing to the lateness of the season when this work was completed, the painting of these outbuildings had to be postponed until next spring. The work of repairing the fences about the grounds had also to be allowed to stand until next season. At present all the buildings are in good condition, having been very much improved during the past summer season, and when the new fences are built and some other improvements made about the grounds, the property will present a much better appearance than it previously had.

### *Collection of Parent Fish and Ova.*

During the first week of September the retaining pond was thoroughly dredged and all the sediment that had collected during the spring and summer freshets was removed. A small building was erected up river for the accommodation of the men who net the supply of parent fish. The building previously used for this purpose had been carried away by the spring ice reshet. A new seine was also obtained, as the old one was completely worn out. After these preparations had been made, operations were commenced for obtaining a supply of parent fish, in the same manner as has heretofore been followed at this hatchery, viz., by a stand of set nets on the Little South-West

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Miramichi, and by seining the pools on the north-west. This branch of the work was not as successful this season as was anticipated, as about the time the men were in readiness to begin seining very heavy rains came on which caused the rivers to rise so high that it was impossible to operate the nets, and the fish that were in the pools within reach passed up to the headwaters, where it was impossible to secure them. After this freshet the fish did not enter the rivers in such large numbers as they usually did other years, and it was only by the greatest exertions and by continuous seining that any fish at all were obtained. Thus, although the number of fish was not nearly so large as was obtained during the previous seasons, the expense was considerably greater, owing to the increased amount of labour necessary to obtain them.

The total number of fish secured and placed in the retaining pond was 170, consisting of 105 females and 65 males. These yielded 815,000 healthy ova. In addition to this number 250,000 were received from Carleton pond, at St. John. This shipment was transferred here by the assistant officer, when returning from Carleton, where he assisted Mr. Mowat to collect and forward the ova to the different hatcheries, supplied from that retaining pond. These eggs are all in good condition, and make a total of 1,065,000 now in the hatchery. From these it can be safely estimated that fully 1,000,000 fry will be hatched next spring.

#### *General Remarks.*

The past season has been a very successful one for the salmon fishermen of this river and bay, in fact much better than has been experienced for quite a number of years. The fish entered the river very early, and one of the dealers informed me that about June 25 he had obtained more salmon up to that date, than he had during the whole season the previous year, from the same number of nets. As the catch for the season of 1901 was about normal, the statement of this dealer shows that the fish were exceedingly plentiful this season. Other fishermen and dealers who have been asked for information admit that the catch was exceptionally good. These men all appreciate the work carried on at this hatchery, and are convinced, that it is only by the continuous planting of fry in the streams that the supply of fish can be kept up to the present standard.

In conclusion I might suggest to your department the advisability of erecting a reservoir at the hatchery, similar to the one at Restigouche for the purpose of rearing salmon and trout fry, and retaining them for six months or one year. This can be done at a small expense here, as the site is very favourable for the erection of such a pond, and I am convinced that such an undertaking would be both successful and beneficial. In view of the numerous applications for trout fry for ponds and lakes, it would be advisable another season to procure a supply of trout ova for the purpose of stocking these small lakes of which there is quite a number in this locality. If there was a pond erected wherein these fry could be retained until they are at least six months old, the advantage to be gained by planting fish of that age can readily be seen. The parent trout could easily be obtained on any of the streams during the month of August, at no great distance from the hatchery. The breeding of a limited number of these fry would add very little to the present expense of conducting the hatchery, and should certainly receive attention another year.

I am, sir,

Your obedient servant,

ISAAC SHEASGREEN.

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## 4.—RESTIGOUCHE HATCHERY, N.B.

FLATLANDS, NEAR CAMPBELLTON, N.B., November 15, 1902.

Professor E. E. PRINCE,  
 Dominion Commissioner of Fisheries,  
 Ottawa, Ont.

DEAR SIR,—I beg to submit my annual report upon the operations of the Restigouche hatchery under my supervision during the past year, 1902.

The fry hatched from the crop of eggs, viz.—3,010,000—collected a year ago were distributed in the following rivers and lakes:—

Ball's Lake, St. John County .....	50,000
Tête-à-gauche river .....	100,000
Jacquet " .....	50,000
Bonaventure " .....	180,000
Upsalquitch " .....	300,000
Metapedia " .....	800,000
Restigouche river, between hatchery and Kedgwick river ..	830,000
Margaree hatchery, semi-hatched or eyed eggs .....	400,000
Grand total .....	2,710,000

Estimated loss of dead and decayed eggs removed during period of incubation 300,000, leaving the grand result as shown above of 2,710,000 healthy fry distributed in excellent condition in the various rivers and lakes of the province. 700,000 of these eggs were collected and brought from the Carleton pond, St. John, and hatched in the Restigouche nursery, so that by the distribution of a few fry in other rivers than the Restigouche does not necessarily rob the Restigouche river of any of its natural crop of fry as certain complaints received from time to time, would make it appear.

*Government nets at Tide Head.*

As an experiment and trial, your department thought it judicious that only one government net be operated at Tide Head the past season, and in lieu thereof, ordered the purchase of any live, healthy fish which might be obtained from the licensed netters lower down, in order to make up the deficiency and guarantee a full supply of stock fish to fill the hatchery with eggs.

The rebuilding of the retaining pond for the reception and impounding of the parent salmon commenced on May 12, and the first five fish were deposited in the pond as early as the 24th, but owing to a high freshet, the nets were swept away and no more fish taken until June 5. On June 26, the nets were again torn away with high water and debris and were not replaced until July 3. Notwithstanding the difficulties the fishing of live salmon at Tide Head, and the fact of the nets having been taken away at a time too, when the best run of salmon was passing into the river, 253 fine large salmon constituted the total catch, these were supplemented by 56 fish purchased from four stands of the licensed netters,—all the live salmon it was possible to obtain from them—this seems all the more remarkable because the department assisted the netters in equipping their nets to preserve the fish alive and paid them the handsome figure of \$3.25 per fish. Even with all this, the netters prefer to catch dead fish, they claim it pays them better with less trouble. It bears out my former reports of the difficulty of catching live fish.

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in the Restigouche, where there is so little ebb and flow of the tide and such a strong current and so much debris and logs going adrift. The total catch then, from the Government net and those purchased was 309 salmon. 24 of those purchased died after being placed in the pond and were removed leaving 285 spawning fish. These were placed in the divisions on October 20, when the manipulation of the fish and collecting of the eggs began. 210 females yielding 2,150,000 eggs were operated upon and 75 males, a most remarkable preponderance of females over males which has never occurred at this hatchery, and as the fish were extra large, the hatchery in consequence is well filled with beautiful eggs. Had not the government net been swept away so many times, it would certainly have taken more fish, but this net cannot always be depended upon and is not sufficient to capture a full supply of parent fish. It is set on the middle ground between the north and south channels of the river, and when the river drops down in June, the fish keep the channel, and the government net takes very few.

#### *Improvements at Hatchery.*

All the equipment and inside fittings of the building were painted and varnished and made ready for the reception of the ova this fall. Also a living or dwelling house 25 x 30 feet was built and joined to the west end of the hatchery for the caretaker and his family. This was very much needed, as heretofore the living room was immediately over the water and hatching room, and owing to the unhealthy condition of such a place to live, it was decided to build a small cottage which will repay the cost in a short time in the saving of fuel.

#### *Retaining pond for fry at Hatchery.*

This pond is the first of its kind in Canada. I have been urging upon the department for several years the great importance of such a pond and I can truly say it is one of the most interesting and important pieces of work ever performed at any of the hatcheries.

The idea of the pond is to retain 100,000 salmon fry and feed and rear them for six months before liberating them in the river, this pond is situated within five feet of the east end of the hatchery at Flat Lands, N.B. It is forty feet square, six feet high the walls two feet thick, built of stone and concrete, and excavation of the ground and gravel was made five feet deep and a concrete bottom laid six inches thick. The pond is supplied by water from two sources, the surplus hatchery pipe connects with it and a second iron pipe connecting with the supply pipe feeds it. The water can be shut off and controlled at will, no other fish or brook trout can get in with the fry. The surplus water from the pond escapes from the surface through a large screened tank which prevents the escape of the fry. When the fish or fingerlings are six months old and ready for distribution, a pipe connecting with the bottom of the pond can be opened and the fish allowed to pass into the river.

#### *Food for the Fry.*

This is a very delicate question to which I have given a great deal of thought. The fry must not be given any hard or stringy substance, as the small larval fish at the age of six weeks when it begins to feed, is quite voracious yet very delicate and unable to dislodge any tough or stringy substance which is certain to adhere to the gills and cause death. In the United States and England boiled and grated liver is generally used. I propose to adopt the following: raw fish, pulverized, then grated in a perforated pan and the fluid only allowed to escape into the water and to the fry, also the spawn of fish, the young of the smelt—which I intend hatching, and blood, all of which will be found to be capital food. We have the facilities at the hatchery for retaining the food fish alive, and an ice house has been built during the summer to be used in connection with the feeding and distribution of the fry.

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*New Brunswick and Nova Scotia Lakes.*

I am quite convinced that a mistake is being made by endeavouring to re-stock the small lakes of the lower provinces with salmon trout and white fish fry or even the fry of the sea salmon. They are not indigenous to these waters and the small lakes, as a rule, are not suitable for such fish. I am sure much better results would obtain by travelling closer a'long the lines of nature, and by stocking with the native speckled trout. It is a native of the lakes and rivers of these provinces and a splendid edible and sporting fish and will thrive in any lake which has a fair food supply, and the temperature of the water not too high. The rainbow trout can also be introduced with good results. I would suggest the stocking of the lakes as outlined above, by planting the adult speckled trout from a half to two pounds in weight. To accomplish this the railway authorities would require to furnish a proper fish car for use in the maritime provinces. Thousands upon thousands of adult trout can be captured at Restigouche and Miramichi at a trifling cost, and with a proper fish car could be conveyed by the thousands through the provinces in the cool of autumn and the lakes stocked with these beautiful fish. I certainly consider the scheme worthy of your serious consideration.

*Carleton Pond, St. John.*

In obedience to your instructions I proceeded to St. John on October 27 and took charge of operations there and collected between three and four millions of eggs from the 960 salmon confined in pond. The eggs were distributed among the following hatcheries :—

Grand Falls, N.B. ....	1,000,000
Bedford, N.S. ....	750,000
Margaree, C.B. ....	750,000
Gaspé, P.Q. ....	900,000
Miramichi and Restigouche. ....	350,000
Total .....	3,750,000

The fish generally were in good condition and the Carleton pond is a good standby,—a wonderful source of supply at a comparatively small cost to those hatcheries which have not the facilities of gathering a supply of eggs from their own rivers.

*General Remarks.*

- While I could give many facts and produce direct evidence showing the good results of the hatchery work and the abundance of breeding fish to be seen all over our rivers, yet the immense catches made the past year, both by netters and anglers, is the best evidence of good work being done. Certain complaints were made last year and in order to give them a tinge of colour, it was alleged, among other things, that the salmon fishery of the Restigouche was on the wane. I believe the complaints were made through a lack of full and adequate knowledge, and from the fact of the previous season—1901—being an unfavourable year for angling. There certainly was an immense run of salmon in the Restigouche in 1901; the kelts last June—1902—were as thick as smelts, one angler took ashore 22 kelts in three days. What does this mean, the rivers teeming with these spent fish at this season of the year? It means simply this, that there was an immense run of salmon ascended the Restigouche the June previous and wintered in the river, and in May and June, 1902, were dropping out to sea. The more kelts there are in a river, the greater will be the run of bright salmon the following year. I have said that June, 1901, was rather an unfavourable season for angling, hence the complaints. The river got down quite low in June and the temperature of the water was very high, and these circumstances killed the fishing in the reaches, which is two-thirds of the total area of the fishing on the river.

In June, 1902—the past year—hundreds of salmon were being taken along the shores and in the reaches of the river, between the pools where the previous year it was dry beach or nearly so, and did not yield a fish; this year the water and atmosphere were just sufficiently cold. Seventy-five per cent of the salmon if covered with the fly would rise to it; the previous June conditions were the reverse and not ten per cent of the salmon would rise to the fly. Conditions of the water and atmosphere usually govern the catch rather than the scarcity of fish. I have said it has been alleged that the fishing is declining, and if such is the case, would it be remarkable with an increase of seventy-five per cent of anglers and twenty-five or thirty per cent of new nets since 1871? Here are a few facts and figures, however, which defy contradiction and must convince any person who is not prejudiced. In the year 1871, the Restigouche river was leased to Messrs. Fleming and Bridges for nine years at an annual rental of \$50, and if they caught 75 or 100 salmon during the season, they considered it fine sport. In 1902, less than one-half of the entire river was sold at public auction and realized \$8,000 per annum. The year 1876 is still talked of among the netters as being a wonderful year for salmon, the officer's report, a copy of which I have for that year, gives a total of 755 salmon and grilse taken with the fly in the Restigouche and its tributaries, including the Jacquet river. The report goes on to state that this was a wonderful catch and the largest score ever made up to that date, but twenty years later, in 1896, we find that the individual members of the Restigouche Salmon Club scored 1,300 salmon, and other anglers and clubs fully 1,500 more, and some single stands of nets caught from 20 to 25,000 pounds of salmon. Again, the past year—1902—was in some respects quite equal to 1896; three small clubs, composed of four or five rods each and a short distance above tide water, landed 650 salmon, the average over twenty pounds. Never was there such fishing known, and how many more were taken by the Restigouche Salmon Club and other clubs and anglers, I suppose will never be made public. One small property on the Restigouche sold the past year for some \$33,000. Fifteen years ago it was leased for the first time for about \$200. I heard of certain nets making big hauls for a short time. From these solid facts, what conclusions must we draw? With the good protection the rivers are now receiving and the proper operating of the hatchery, and a strict observance of the weekly close time among the nets, there need be no fear for the future welfare of the river and the fisheries.

I am, sir, your obedient servant,

ALEXANDER MOWAT.

##### 5.—MARGAREE HATCHERY, NEW BRUNSWICK.

NORTH-WEST MARGAREE, July 1, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—In compliance with instructions, I have the honour to submit my first annual report of the fish cultural operations prosecuted in this hatchery during the season of 1902.

My commission as officer in charge dates from March 1, 1902.

On April 11, Mr. William Sheasgreen, of Newcastle, N.B., arrived at the hatchery with the quota of semi-hatched salmon ova, 1,450,000, ordered by the department, and transferred from the Miramichi and Restigouche hatcheries. He was instructed to remain with me as tutor, until the period of incubation was completed, and the fry distributed. This he did. The ova were placed in the hatching troughs in good

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Between May 5 and 15, a healthy, vigorous lot of fry, about 1,250,000, were hatched, and indeed, all looked exceedingly promising for a large distribution.

I lived at night at my residence, one mile from the hatchery, and at that date did not have a regular assistant. Mr. Sheasgreen boarded at his hotel four miles away. The buildings were in charge of a caretaker during my absence, who lived about one hundred yards from them. Though he did not sleep in the hatchery, he had the general care of the buildings, day and night. We suspected nothing whatever, otherwise we would have been more cautious and have a night watchman employed. On the night of May 20, the building was entered by some malicious vandals, through the door, having a key that fitted the lock, and about 900,000 fry were scooped out of the troughs onto the concrete floor. They performed their nefarious work quietly, for no person in the vicinity appears to have heard any noise. The stoppers of the troughs were withdrawn, consequently the loss, although large, is not as great as appears, for a large number of fry escaped through the sewers into the waters of the river. A detailed account of this outrage has been forwarded already to the department. Out of the debris there was recovered about 95,000 fry, and carried through in excellent condition, until June 10, when, as per Inspector Bertram's instructions, they were liberated into the following streams :—

Big Interval, tributary of Margaree river.....	25,000
Ingraham's river, tributary of Margaree river.....	25,000
Rossville river, tributary of Margaree river.....	20,000
Middle river, Victoria County .....	25,000
Total .....	95,000

The hatchery is at present in first-class condition for this year's operations. Intelligent critics, who have visited us, and who are acquainted with hatcheries abroad, not only in Canada, but the neighbouring republic, have pronounced it both in its situation and in its internal and external arrangements a model of its kind, and second to none in the Dominion. The construction work on an excellent house adjacent to the hatchery is nearing completion.

In conclusion I may add that every effort is being made by me to perform the routine work in a careful, thorough and scientific manner, and every advantage is taken to acquire an up to date practical knowledge of salmon culture and an acquaintance with the nature and habits of the fish frequenting our rivers.

All of which is respectfully submitted.

I am sir, your obedient servant,

ALEX. G. CARMICHAEL.



## 6.—TADOUSSAC HATCHERY, QUEBEC.

TADOUSSAC, November 12, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to submit my annual report of the operations carried out at the Tadoussac hatchery for the season ending this month. The distribution of 2,800,000 salmon fry has been done in the following rivers and lakes:—

Roberval hatchery.....	100,000
St. Marguerite river .....	400,000
Baude " .....	400,000
Chisholm " .....	400,000
Mowat's lakes.....	500,000
Thomas " .....	300,000
St. John River.....	200,000
Little Saguenay river.....	200,000
A Mars " .....	100,000
Jacques Cartier " .....	100,000
Murray " .....	50,000
Black " .....	25,000
Hatchery lake.....	25,000
	<hr/>
	2,800,000

The distribution on the upper Saguenay has been done with the assistance of the tug boat *Forrest*, and the one in the rivers and lakes in the vicinity of Tadoussac by carters. After the distribution the breeding room has been cleaned and all the trays washed, to have them ready for a new coat of varnish. During the summer I had some work done around the building in the way of working the ground and sowing some seeds to give better appearance in front of the building. This season, by instructions of the department, our salmon nets for the capture of parent salmon have been set and kept by men under the direction of the St. Marguerite Salmon Club and William Price, Esq., of Quebec, proprietor of two salmon rivers—the St. John and the A Mars rivers. They had agreed to supply the Tadoussac hatchery with 500 salmon—300 females and 200 males. Mr. Price had sent one of his employees from Quebec to remain at the fishery house with the men to look after their interest in the catching of the parent salmon. They have not been lucky. They only could supply our hatchery with 310 parent salmon—189 females and 121 males. At the spawning time the females gave us a crop of 1,800,000 eggs, now deposited on our trays and looking well. By a requisition of J. H. Beemer, Esq., and by instructions from yourself by message, I will send to the Roberval hatchery by Saturday's boat 200,000 salmon eggs in charge of my son. As he will be obliged to return by the same boat, making the last trip of the season, Mr. Marcoux, the manager of the Roberval hatchery, has instructions to meet him at Chicoutimi, to take charge of the salmon eggs from Chicoutimi to Roberval by train. As I had great trouble to procure some coal, and being very expensive and not good, I only bought three tons of it to be used in the night, and I will use some cordwood during the day. The part of the dam of the salmon pond left open since the pulling down of the old hatchery, has been closed this summer under the direction of Mr. Taché, one of the engineers of the Department of Public Works; also a sidewalk from the spawning house to the wharf has been made. It will be a fine accommodation for the travelling public visiting our salmon pond during the summer. At every boat during the fine season our salmon pond is visited by hundreds of tourists. The salmon fly fishing has been very good in all the rivers tributary of the Saguenay

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river, and by reports of some of the guardians the rivers are well stocked with parent salmon. The Tadoussac hatchery requires 250 trays more to cover all the breeding room with the same kind of trays. I had a little difficulty this fall with the men. They require higher wages. They say that the Department of Fisheries is in position to pay as high as are the other people employing men. Something will have to be done next spring in the way of increasing the wages; in fact the living is a great deal more.

I have the honour to be, sir, your obedient servant,

L. N. CATELLIER.

## 7.—MAGOG HATCHERY, PROVINCE OF QUEBEC.

MAGOG, QUE., November 28, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I beg to submit my report of operations at Magog hatchery for the season of 1902.

As you are aware I was officially instructed by you on November 5, 1901, to proceed to Carleton pond, St. John, N.B., and bring from that place a quantity of salmon eggs to the new hatchery at Gaspé, P.Q.

I left here on November 8, 1901, not returning until July 5 of this year.

The operations at this hatchery being carried on by Mr. Walker of Ottawa in my absence, I give below Mr. Walker's statement of the distribution of fry from this hatchery sent to me by him some time ago.

LIST of places where the Fry have been deposited from Magog Hatchery.

Sea Salmon.	Number.
Taylor's pond, Waterloo.....	5,000
Lake Memphremagog.....	40,000
Ontario lake.....	25,000
Long lake.....	25,000
Magog lake.....	45,000
Massawippi lake.....	50,000
Lake Mercier (Mount Tremblant).....	20,000
Petit Lac Aux Iroquois.....	15,000
Perkins pond, Danville.....	20,000
Brome lake.....	20,000
Lake Frontenac.....	20,000
Lake Lister (Stanstead).....	25,000
Huntingdon river.....	40,000
Lakes in New Brunswick.....	10,000
St. Francis, Beauce.....	
Total.....	360,000
Salmon Trout.	
Lake Mercier, (Mount Tremblant) .....	50,000
River Richelieu.....	30,000
Perkins pond (Danville).....	30,000
Brome lake.....	25,000
Chateauguay river.....	45,000
Lakes in New Brunswick.....	75,000
Lake Williams.....	70,000
Lake Memphremagog.....	100,000
Lake Fontaine (Champlain).....	60,000
Lac a la Fourche (R. du Loup).....	50,000
Lake Magog.....	30,000
Total.....	565,000

About 10,000 speckled trout were hatched and planted in Taylor's pond, Waterloo.—J. W.

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On the eighteenth instant I received at Magog from Mr. Wm. Armstrong, officer in charge of the fish hatchery at Newcastle, 840,000 salmon trout eggs which are doing well.

On October 15, I received instructions to secure as large a supply of speckled trout eggs as possible. I have secured from the different ponds about 75,000 which are doing well.

#### *Repairs.*

In reference to repairs, I wish to report that the following repairs are finished according to instructions received. A new floor, and new timbers under floor, 36 new hatching troughs, six new floor or overflow tanks, new bridge in front of hatchery, bridge at end of hatchery repaired. In conclusion I may say that the whole building is in first class condition except the supply tank which is not new and may require some small repairs another year.

I have the honour to be, sir,  
Your obedient servant,

ALEX. FINLAYSON,  
*Officer in Charge.*

### 8.—NEWCASTLE HATCHERY, ONTARIO.

NEWCASTLE HATCHERY, December 5, 1902.

To Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

I have the honour herewith to submit a report of the fish culture operations carried on at this hatchery during the past year.

The following schedule will show the points of distribution, also the numbers and kinds of fry placed in each locality last spring.

#### *Salmon Trout.*

Bay Quinte, Belleville.....	50,000
Lakes on Bay Quinte railway.....	100,000
Lake on the Mountain.....	50,000
Lake Ontario, Kingston.....	75,000
“ Consecon.....	50,000
Lakes, Hastings County.....	100,000
Lake at Portland.....	50,000
River at St. Hyacinthe.....	75,000
Blue Sea Lake.....	50,000
Lake Ontario, Cobourg.....	50,000
	<hr/>
	650,000
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I beg to inform you that the fry were all deposited in the different waters in the very best condition.

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We had the misfortune, in February last, of having our dam washed away, which cut off our supply of water and necessitated the removal of our eggs (in accordance with your instructions) to the Ottawa hatchery. You will notice that we had no white fish eggs this year, as the break away occurred just on the eve of our receiving the usual supply of white fish eggs from the Sandwich hatchery. I am pleased to say since the foregoing, Mr. Galbraith has built a first class dam, and I do not anticipate any further trouble in that line for a good many years to come. We also expended about \$192 for a new 5 inch iron pipe, which is about 250 feet from the dam to the hatchery. This has made a permanent job of it, which, I have no hesitation in saying, will last as long as there is a hatchery in Newcastle.

According to your instructions, I proceeded to Wiarton, Georgian Bay, about October 1, with our usual assistance to procure our usual supply of salmon trout ova for this and other hatcheries.

We succeeded in getting our nets set about October 20. We raised our nets on the 25th and secured about 60,000 eggs. After that date we had no trouble in securing all the eggs we required for this and the other hatcheries in the Dominion. Altogether we secured about 5,000,000, out of which I delivered to the Ottawa hatchery 1,000,000 and to the Magog hatchery 840,000, which leaves a balance in this hatchery of about 3,000,000 in first class condition and doing well.

Our plant at Wiarton is now in the very best condition. We have two first class pound-nets, which, with a very little expenditure, will serve us for a number of years. I might say, in concluding my report, I have had better success this year in our operations at Wiarton than any year since I have had the honour of being an officer in the Newcastle hatchery.

I have the honour to be, sir,  
Your obedient servant,

WM. ARMSTRONG,  
*Officer in charge.*

## 9.—SANDWICH HATCHERY, ONTARIO.

SANDWICH, December 15, 1902.

To Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—In compliance with your instructions, I herewith submit my annual report of the work connected with the fish hatchery here under my supervision.

According to last year's report, this hatchery contained 100,000,000 whitefish eggs, from which we turned out 85,000,000 young fry, which were disposed of as follows:—

*Young Fry.*

Goderich, Lake Huron. . . . .	1,000,000
Point Edward, Lake Huron. . . . .	4,000,000
Belle Isle, Detroit river. . . . .	3,000,000
Fighting Island, Detroit river. . . . .	5,000,000
In bay below Fighting Island. . . . .	5,000,000
Stoney Island, Detroit river. . . . .	4,000,000

Carried forward. . . . . 22,000,000

Brought forward .....	22,000,000
Bois Blanc Island, Detroit river .....	8,000,000
In lake below Bois Blanc Island .....	7,000,000
Pigeon Bay, Lake Erie .....	6,000,000
Bar Point, Lake Erie .....	3,000,000
Colchester, Lake Erie .....	2,000,000
Kingsville, Lake Erie .....	1,000,000
Leamington, Lake Erie .....	1,000,000
Rondeau, Lake Erie .....	1,000,000
Port Stanley, Lake Erie .....	1,000,000
Hamilton, Lake Ontario .....	1,000,000
Niagara, Lake Ontario .....	1,000,000
Toronto, Lake Ontario .....	1,000,000
In river at hatchery .....	30,000,000
Grand total .....	85,000,000

The above consignments of young fry were liberated in the water at the points designated, in first-class condition.

I also secured thirty millions of eggs for the Selkirk Hatchery, Manitoba. These were sent by rail and placed in the jars, where they duly hatched out, as Inspector Young will have reported to you.

#### *Collecting Pickerel Eggs.*

After having cleared the house of the young whitefish, preparations were made for the reception of the pickerel (doré) eggs, which were collected from the pound-nets in Lake Huron and Hitchcock's Ground, Point Edward. The number of eggs secured showed a total of 30,000,000.

From these eggs were hatched out 15,000,000 young pickerel, which were placed in the following waters :—

Thames river .....	2,000,000
Detroit river .....	13,000,000
Total .....	15,000,000

This fall we have secured and laid in the hatchery 1,000,000 whitefish eggs, which are in good condition.

I have also secured and placed in the hatchery at Selkirk, Man., 35,000,000 whitefish eggs.

The total catch of fish this autumn is accounted for as follows :—

Liberated .....	9,775
Sold .....	2,100
Salted .....	100
Lost .....	200
Used .....	75
Hotel Dieu (hospital) .....	25
Home of the Friendless .....	25
Total .....	12,300

#### THE CATCH OF FISH.

From reports received from various parts of this locality the catch of whitefish in the Detroit river and adjacent lakes has been fairly good.

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## REPAIRS.

A new foundation has been placed under the boilers and pump in the hatchery, but we are sadly in need of a new pump. I would therefore recommend that a new one be purchased, as we are only using and trusting entirely to one pump. Should any accident occur at any time we have no other to fall back on in case of emergency.

## THE SHANTIES.

We are badly in need of a quantity of additional piles to fit up our fishing grounds at Fighting Island. I think if a sufficient sum was spent in putting the piers and breakwaters in a proper and substantial condition, it would prove a most wise expenditure. This improvement would result in a vast saving to the department, as it would last for many years and would avoid the necessity of doing a lot of extra work each fall. It would also materially facilitate the more successful carrying out of this most important branch of work.

## THE MANITOBA HATCHERY.

Mr. Adamson, the officer in charge of the consignment of whitefish eggs for the Selkirk, Manitoba hatchery, reported to me on his arrival home that the eggs were successfully hatched and placed in the waters of that province.

I remain respectfully,  
Your obedient servant,

WM. PARKER,  
*Officer in Charge.*

## 10.—SELKIRK HATCHERY, MANITOBA.

SELKIRK, MANITOBA, October 4, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa, Ont.

SIR,—I have the honour to report on the work of the institution under my charge for the season 1901 and 1902.

I am very pleased to report that the season's operations were all that could be hoped for. The plan adopted by the department for this season of bringing the spawn from eastern waters proved to be most successful, you will see by the quantity of spawn received, and the number of fry hatched therefrom, and liberated, that the output was about seventy-five per cent, which is very satisfactory considering that these eggs were brought from the Detroit river. I think it is beyond question that Mr. Wm. Parker is an officer who deserves great credit for the good condition in which the eggs were brought from the Detroit river, such a long journey, to this Manitoba hatchery.

On December 7, Mr Wm. Parker and his assistant Mr. Samuel Adamson, arrived with thirty million whitefish ova in first class condition. Mr. Parker returned east, without delay and left Mr. Adamson to look after the eggs during the months of incubation, and I must also say that to Mr. Adamson is due, to a large extent, the success of the season's operations. He took a great interest in his responsible duties and

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being a hard worker the eggs were well looked after. We received this year five hundred of the most recent forms of hatchery jars, which proved to be very much superior to the old style used in our hatchery in previous years.

While we received thirty million spawn this season, the hatchery as you are aware has a capacity for seventy-five millions. I trust before another season we will be able to get a much larger quantity of eggs. As the expense in operating would not be much increased if increased at all, beyond the expenditure incurred this season with the thirty millions sent last fall to Selkirk.

*Young Fry Liberated.*

Netley river . . . . .	8,000,000
Cross channel . . . . .	2,000,000
West slough . . . . .	1,000,000
East slough . . . . .	1,000,000
Red river near hatchery.. . . .	11,000,000
	23,000,000

We made the last trip on April 22 to plant fry, and had with us the Inspector of Hatcheries, Mr. F. H. Cunningham. Two millions fry were planted in Netley river, the balance were liberated a few days later in the river near the hatchery. The hatchery was finally closed down for the season on April 30. The repairs, many of which I reported personally to you on the occasion of your last official visit in February, being really sanctioned by the department sometime ago, are well under way. The fence around the grounds is completed and the boiler is in shape for next season's operations having had a new set of tubes put in it. The rest of the repairs will be completed in time for the operations commencing about the usual date this fall.

I have the honour, to be, sir,  
Your obedient servant,

W. S. YOUNG.

### 11.—BAY VIEW HATCHERY, NOVA SCOTIA.

BEDFORD, N.S., November 7, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I beg to submit my report of operations at Bay View Lobster Hatchery for the season of 1902.

I commenced operations at this hatchery as early as April 16. The lobster fishing commenced earlier this season than ever known before. There being no spring ice in the straits, lobster fishing commenced as soon as the law would permit, and heavy hauls were made at the first start, and the pack was about the same as the previous year, although many of the factories closed long before the beginning of the close season. The hatchery closed on July 22, having been in operation 93 days. 120,000,000 of fry were distributed around Pictou bay and Pictou island. The eggs were collected from these points.

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I regret to say that several applications for fry were received (after the hatchery had closed) and could not be filled.

During the season I gave the exterior of the hatchery one coat of paint to preserve the wood.

The wells which were dug last season proved highly satisfactory and greatly reduced the cost of the fresh water supply.

A new smoke stack was made for the steam boiler, which is in a good state of preservation after eleven years' service in the salt water.

The hatchery is in good working order, and the necessary repairs from year to year are but trifling.

I am, sir, your obedient servant,

ALFRED OGDEN.

## 12—GASPE HATCHERY.

December 26, 1902.

Prof. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR:—I have the honour to submit this my first annual report for the season of 1902 as officer in charge of the new fish hatchery at Gaspé Basin.

On November 14 1901 Mr. Alex. Finlayson of Magog hatchery arrived here by the *S.S. Admiral* from Carleton Pond, St. John, N.B., with a shipment of 800,000 salmon ova, but they were not laid down in the hatchery until the 16th owing to the troughs not being completed.

The eggs were in first class condition and the few dead ones were got out in a short time, and although there was a great deal of trouble with clay and dirt caused by the unfinished state of the dam, and the too frequent washing of the eggs, there was a very small percentage of loss.

The fry were late in hatching out. Mr. Finlayson, who remained with me the whole winter to instruct me in the work, thought it was owing to the lateness of the ova being put in the troughs and the brook on which the Hatchery is built takes its source and runs the whole distance through a thick wood keeping the water very cold.

The young fry were in excellent condition when planted, they were equally divided between the St. John (known as Douglastown) the York and Dartmouth rivers. The mode of distribution was the same as from the old hatchery at L'Anse Aux Cousins, by canoes from the hatchery to the York and Dartmouth rivers, to the St. John by team from the hatchery to the river, thence by canoes to the spawning beds where they were planted. Owing to the very heavy freshets last spring we had some difficulty in poling the rivers, and had to stop the work a few days but later did excellently, not losing one day, until we finished on July 8.

The contemplated lobster hatching operations did not result in any success this season, owing to the low salinity and freshness of the water in the harbour, caused no doubt by the very heavy freshets in all the brooks and rivers. This continued very late on in the season. The pipe from the pump running parallel with and right in the brook that supplies the hatchery with fresh water increases the difficulty and the end of the pipe lying not more than two feet deep in the water at low tide, it practically takes the fresh water off the top, instead of the lower stratum of heavier sea-water. When Mr. Ogden of Bay View Lobster Hatchery was in Gaspé to instruct me in the work of hatching lobsters, the water registered a little over  $2\frac{1}{2}$  oz. of salt to the



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gallon where the government steamer *La Canadienne* usually anchors in the harbour. The sample was taken at a depth of three or four fathoms from the steamer.

In my opinion by using a half elbow just at the outside of the hatchery and running the pipe in a direction clear of the brook where deep water would be had at the same or less distance, and lowering the end of the pipe to a depth of 10 or 12 feet at low tide, the water would be sufficiently salt for the successful hatching of lobsters, and, I think, should be tried as an experiment another season.

After finishing the distribution of the fry, all the troughs, trays, cans, &c., were thoroughly cleaned and made ready to varnish. This was not done last fall there being no time to do so and the fittings were indeed not fully completed when the ova arrived from the Carleton Pond. As soon as I got the varnish I had all the trays, troughs and cans nicely done giving each two coats, and in addition I had the salt water supply pipe taken up and properly cleaned, tarred inside and out, and stored away for the winter.

By the department's orders I had the dam cleared of all the clay, built strong sides of timber and deal; stopped with Portland cement all places where water would get through the rocks, then filled up with earth, and on the bottom laid birch-rinds (bark), where the flooring met the rock. Finally the flooring was covered with clay and earth, and I am glad to be able to say that the dam is perfectly tight, the water beautifully clear, no dirt coming in the hatchery, and everything working first-class.

On November 9 last, Mr. Wm. Sheasgreen, brought me a shipment of 1,000,000 salmon ova from the Carleton Pond. They were placed in the troughs the same day but I am sorry to have to state there was quite a lot of dead eggs at least ten to one compared with the shipment of the previous fall, but in my opinion it was not in the transportation, but at the pond where they were packed in the boxes. There were trays in the same box with scarcely any dead eggs, and other trays with quite a number. This would not have happened if they had been in good condition when put in the boxes. By going carefully over the trays I hope to have nearly if not quite 900,000 fry to distribute next summer as there are very few dying now, and the great majority of the ones that are dying had small white spots on them when placed in the troughs. I should have been glad to have had a larger quantity than the 1,000,000 eggs sent, as the capacity of the hatchery will admit of double that quantity.

Some complaints from our salmon fishermen here have been received about bringing the ova from St. John, N.B. They understand that the salmon are a much smaller race of fish, and after reading the Fish Culture Report for 1901, where, on p. 243, the officer (Mr. McClusky) states that out of 193 salmon taken by the fly fishermen there were 16 that weighed 20 pounds or over, it seems that the salmon must be much smaller than in the Gaspé rivers, as our net fishermen claim that their average fish run between 20 to 22 pounds. A great many salmon got by the fly fishermen as well as by the net fishermen here weighed 28, 30, 35, 38 and even 40 pounds and unless a fish weighs 40 pounds or over it is not considered remarkable. If the department built a retaining pond here the parent fish could be got from the net fishermen quite close to hatchery.

I am glad to be able to report the hatchery much more comfortable and complete than last year, as the proper spouts are now in the troughs, all the waste troughs have their proper fixings, the double windows are in use (which makes a great difference in the heat), the ceilings are all varnished, and the upper part of the building completed &c. I may add that I will require a few more distributing cans this spring as there are not quite enough for the requirements of the hatchery.

I have the honour to be, sir,  
Your obedient servant,

R. LINDSAY.

## 13.—OTTAWA HATCHERY..

(MR. JOHN WALKER, Officer in charge).

The operations of this hatchery during the season 1901-2 were carried on under exceptional conditions in consequence of the transference, temporarily, of the officer in charge (Mr. Walker) from Ottawa to Magog. Mr. Alexander Finlayson's services were considered advisable at the new Gagé hatchery and in the absence of that officer from Magog hatchery Mr. Walker took charge. Mr. John Kenefick, a hatchery officer of great experience, was instructed to superintend the season's work at Ottawa with the assistance of Mr. Walker, jun., and the result proved most satisfactory. The output of over a million and a quarter salmon-trout or great lake-trout fry is ample proof of a most successful season; but as all the surplus whitefish ova obtained by Mr. Parker, at the Sandwich hatchery were required for the Selkirk institution in Manitoba none could be spared for the eastern hatcheries, and instructions were sent to Sandwich that the usual shipments to Ottawa, Newcastle, &c., were not to be made this year. In early spring, however a serious mishap at the retaining dam adjacent to the Newcastle (Ont.) hatchery rendered necessary the transference of the eggs in a semi-hatched condition from Newcastle to Ottawa. The tanks of the Ottawa hatchery were in consequence, somewhat inconveniently crowded, but the fish were hatched out with very slight loss, and were distributed to the districts usually supplied with fry from the Newcastle hatchery. This additional work was thrown upon the hatchery at Ottawa in the midst of its operations, but the officers (Mr. Kenefick and Mr. Walker, jun.) were able to overtake the work, and at the time of distribution, Mr. William Armstrong planted the fry in the series of lakes specified by him in his official report. The total quantity of fry, between six hundred and seven hundred thousand, thus distributed from Ottawa are not, however, included in the returns from this hatchery as incubation had been carried on, from November until February, at Newcastle and it was only in the very advanced condition that they were placed in the tanks at Ottawa, and their incubation completed. In addition to the salmon-trout hatched out, a small quantity of sea-salmon fry was also placed in the Ottawa hatchery, and some of these were distributed at the same time as the trout fry, this slightly increased the total quantity of the fry planted in the lakes of Ontario and Quebec, which are supplied from Ottawa. Over thirty lakes were stocked with these young fish, the scheme of distribution and the quantities apportioned to the respective lakes being detailed in the subjoined list:—

Charleston lake.....	100,000
Otty lake.....	30,000
Christy's lake.....	30,000
Sharbot lake.....	50,000
Caldwell and Bottle lakes.....	30,000
Cross lake.....	30,000
Rock lake.....	60,000
Victoria lake.....	60,000
Wice's lake and Burns lake.....	30,000
Lac des Iles, Gatineau.....	30,000
Rideau lake.....	60,000
Coppings lake, Rawdon.....	30,000
7th Lake, Joliette.....	50,000
Lac à Foin, &c., Joliette.....	35,000
Lac Noir, St. Felix de Valois.....	30,000
Carried forward .....	655,000

Brought forward .....	655,000
Lac de Montigny, St. Jerome .....	30,000
Ville Mon Repos, Trois Rivières .....	30,000
Lac des Isles, St. Tite .....	30,000
Lake Barnet, St. Margaret .....	30,000
Cres Creek and Pond Trois Rivières. ....	60,000
Achigan River, St. Lin .....	25,000
Lake St. Esprit, Ste. Julienne .....	35,000
Lac Moisan .....	25,000
Various waters, P. E. I .....	100,000
Ramsay lake .....	35,000
Holly's lake .....	35,000
Lake Jack Ross and Lake Brule .....	35,000
Lac Duhamel .....	30,000
Yamaska River, St. Hyacinthe .....	30,000
Blue Sea lake .....	30,000
Otter Lake, Arundel .....	30,000
Total .....	1,245,000

#### 14.—FRASER RIVER HATCHERY. C.B.

PROF. E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR.—In accordance with your instructions, I now inclose reports of the work of the Fraser River Hatchery, followed by that of the two other hatcheries, in British Columbia, for the season 1901-02, with statements of their condition and prospects for the current season. As allied to fish culture, I also report on the work done on several rivers to enable the salmon and other fish to overcome natural obstacles to their ascent, and thus reach spawning grounds hitherto unattainable.

I much regret that I am not able in this connection, to report any work having been done on the North Fork of the Quesnelle River in the upper waters, of which there is a large extent of suitable spawning ground.

The department had authorized an expenditure of \$450 for the purpose of providing a passage-way over the falls in this river, but on inquiry it was found that the cost of the work to be done would greatly exceed this amount, and that for it to be effective, an expenditure of not less than from \$1,200 to \$1,300 would be required. Large as this amount may seem, the object to be obtained in the opening up of fresh spawning ground, would amply justify this, or even a much greater outlay, and I trust the department will see their way to have this done before the next spawning season.

As reported to you on December 27, last year, we were successful in getting a good supply of ova for the Fraser River hatchery.

The total number of eggs taken was 10,202,000, i.e., 10,106,000 sockeye and 96,000 cohoes.

1,151,000 or nearly 10·6 per cent were lost, but in regard to this high percentage of loss it must not be overlooked that this included all the eggs, (a large number) which were dead when delivered at the hatchery, and the actual percentage of loss from the live eggs would consequently be much less.

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Previous to 1899 the eggs, which were dead when delivered were not taken into account in calculating the percentage of loss, no record being kept of the first eggs picked out. I have for this year, while keeping count of the eggs that were dead when delivered, kept this account separate from the later pickings, so as to be able to get a more correct estimate of our actual loss in handling the live eggs.

The number of eggs in the hatchery exceeded by over 50 per cent the capacity of the troughs as formerly used, and as I stated in my last report we provided for the safe development of the extra number by cutting the troughs in two so as to re-aerate the water for the eggs in the lower end, and by providing ponds outside, in which the fry after hatching had plenty of room and an ample supply of water for their needs, until the absorption of the sac.

These expedients proved quite effectual and we had, when the fry had matured sufficiently to be released, over 9,000,000 sockeye fry to distribute. These as already reported to you were distributed as follows:—

Lillooet river.....	500,000
Chilliwack river.....	1,600,000
Harrison river.....	6,300,000
Kanaka creek.....	600,000
Nanaimo river.....	30,000
Hatchery creek.....	18,000

The Coho fry to the number of 90,000 were released at the hatchery.

After the troughs were free of the sockeye fry, we endeavoured to secure a supply of Steelhead salmon (*Salmo gairdneri*) and Rainbow trout (*Salmo irideus*).

The present location of the hatchery at Bon Accord is very inconvenient for this. While steelheads spawn in Morris creek they do not run in large schools like the sockeye. Were the hatchery located at the spawning grounds, it would be possible with little additional expense to secure a fair supply of ova, the distance from the spawning grounds and the small lots secured at a time make it very expensive to hatch out these eggs under existing conditions.

We secured 79,000 steelhead and 7,000 trout eggs, which were safely hatched out and planted in the Koksilah and Cowichan rivers; both favourite angling streams on Vancouver Island.

Our first sockeye eggs were received on October 4, the first fry making their appearance on December 6. For 62 days there was an average temperature of 45.3°. These first fry however were weakly and those that were a few days longer in coming out were in much better condition.

Our final shipment of sockeye ova was received November 5 and the last of the eggs were hatched out in February.

With regard to our work for the current season we have to date about 8,000,000 sockeye ova and fry in good condition, and one or two baskets of Coho Spring and Dog salmon put in for specimens.

Fearing, from the small run in the Fraser river, a repetition of our experience in 1900, (when we were unable to obtain ova for the hatchery,) I established a camp at Silver creek about 20 miles up Harrison lake, where the run of sockeye is earlier than at Morris creek, and obtained from this in September nearly 2,000,000 eggs. We could have secured a much larger number but our fences could not stand the freshet in the creek (which is of considerable size), and they were carried away, letting a large number of salmon both spring or quinnat and sockeye escape. Although this number of eggs was obtained, a great many of these were lost, owing apparently to the milt having been allowed to remain too long on the eggs before being rinsed off.

My fears as to the supply from Morris creek being a failure proved unfounded, and, in addition to about 8,000,000 eggs obtained for this hatchery, we were able to ship nearly 2,750,000 to the Granite Creek Hatchery, where, owing to the smallness of the run and the fences having been washed out, we had not been able to secure a supply of sockeye ova.

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Both at Silver and Morris creeks, however, it will be necessary to have some work done during the winter before the water begins to rise, so that we may have adequate foundations that we can depend on when we again put in our fences.

I have the honour to remain, sir,  
Your obedient servant,

C. B. SWORD,  
*Inspector of Fisheries.*

### 15.—GRANITE CREEK HATCHERY, SHUSWAP LAKE, B.C.

To the Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—My report on the operations of this hatchery is as follows :—The first sockeye ova for this hatchery this season (1901-1902), were received from Scotch creek on August 27, 1901 and the main supply came from this creek. The latest shipment received was on September 22. Outside of Scotch creek there were received 2,200,000 eggs from Salmon river, about 2,000,000 from the creek at the hatchery, and 300,000 from Canoe creek. These creeks are not usually, or at most only to a very limited extent, used as spawning grounds by the sockeye salmon, but owing to the enormous run this season (1901) they were so used by a large number.

A great many of the eggs were in bad condition, there were also heavy losses from the meshes of the baskets (the same as we used at Fraser river) letting many of the eggs, owing to their smaller size, fall through into the bottoms of the troughs, and from our not having sufficient force to have the dead eggs picked out before the development of fungus.

The water too was a great disappointment, well flavoured and apparently pure, there was, until the cold weather set in, a great deal of fungus growth, possibly owing to some microscopic vegetable growth, which caused heavy loss.

The first fish were hatched October 23, 56 days after the eggs were received at the hatchery, and by December 12 all the eggs were hatched out.

Mr. Roxburgh who was in charge estimated that, after the first picking which was very heavy, he had 9,000,000 eggs, 848,000 of these died, 1,000,000 were shipped to Tasmania, 432,000 to New Zealand the balance 6,720,000 released in the lake in the form of fry in good condition.

Mr. Morton, the officer in charge of the Tasmanian shipment reported that he had brought 50 per cent of his shipment as far as Hobart Town in good condition.

Owing to the high temperature of the water, some, transferred to the New South Wales government, perished after having been hatched out in Sydney.

The eggs shipped to New Zealand were taken as far as San Francisco in the care of Mr. Robinson from this office, and were handed over in good condition to Mr. Lampson one of the officers of the United States Fish Commission who took charge of them and accompanied them to New Zealand. He reported having been able to deliver 160,000 or about 37 per cent in good condition.

There was a very small run of sockeye in Shuswap lake this (1902) season and we lost practically the whole of what sockeye came into Scotch creek, owing to the man in charge of the camp, not realising in time the need of supplementing the fences which had been put in.

Fearing a shortage of eggs, on account of the small run in the Fraser river, Mr. Mitchell, the foreman in charge, had arranged to fence Eagle river, Salmon river, and creeks at the heads of Anesty and Seymour Arms, all of which are used to some extent

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as spawning grounds by the sockeye. The fence he was able to get in proved in nearly every case insufficient to withstand the water and a great many fish were lost through the fences giving way just when the run was at its best.

He was able to secure 800,000 sockeye, and 1,180,000 coho (*O. Kisutch*) eggs which with 2,650,000 sockeye eggs I was able to send up from Morris creek, gave him a total of between 4½ and 5 million eggs.

It will be necessary to make provision to have proper foundations for the fencing, put in while the water is low in all the creeks, on which we depend for our supply for this hatchery. These creeks are much larger and harder to control than the small Morris creek with which we have hitherto had to deal in getting a supply for the Fraser River hatchery at Bay Accord. This will have to be done before the creeks begin to rise in the spring, and while increasing the expenses of operation for the current year, it cannot but insure, if effective, to greater economy in future seasons, and greater certainty of a sufficient supply of ova being obtained.

I am, sir, your obedient servant,

C. B. SWORD,  
*Inspector of Fisheries.*

**16.—SKEENA RIVER HATCHERY, B.C.**

To the Commissioner of Fisheries,  
Ottawa.

SIR,—This hatchery was completed this season, and Mr. Thomas Whitwell went up in June to take charge of the operation of same. Mr. John Morton, who had charge of the construction accompanied him, and completed his work by the end of August.

Mr. Whitwell reports that he received his first ova on August 22, and on September 27 had secured a total supply of close on 4,000,000. This is about double the estimated capacity of the hatchery, but I have good hopes that by providing outside ponds for the fry to mature in after hatching, he will be able to bring the whole number through without serious loss. This is the expedient we adopted with complete success at the Fraser River hatchery in 1901 when we had more fry than could be accommodated in the troughs, and Mr. Whitwell being then engaged there, witnessed the process and its success.

I have the honour to be, sir,  
Your obedient servant,

C. B. SWORD.

## 17.—NIMPKISH HATCHERY, B.C.

To the Commissioner of Fisheries,  
Ottawa.

SIR,—I beg to submit the following brief report upon this new B.C. hatchery.

It is to be noted that one of the conditions of the special fishery privilege granted to Mr. S. A. Spencer, of Alert Bay cannery, for the area at the mouth of the Nimpkish river, was that he should establish a hatchery on the Nimpkish river for the purpose of keeping up the supply of salmon in the waters leased. This hatchery was to be under the supervision of the officers of the department, and Mr. Roxburgh, who undertook the charge of it, reported to me on November 7 that at the end of October he had 1,700,000 sockeye ova with every prospect of carrying through a large percentage.

Before concluding my report, I beg to add my observations on the work of removal of obstructions carried on this year on various British Columbia rivers as I regard it to be essentially connected with fish-culture and with the improvement of the fish-supply.

*Work on Courtenay River, Comox.*

The fish-pass which had been built on this river not having proved a success in enabling salmon to get over the falls, authority was given for an expenditure of \$300 to blast down the rocks at the falls so as to form a passage that the fish could ascend. On its being found that this was not sufficient to complete the work, a further expenditure of \$100 was authorized; but before this authorization was received by Mr. McAllan, who was in charge of the work, the water in the river had risen so that nothing more could then be done.

Mr. Mason, the local fishery officer, succeeded later, when the river was again low, in getting the work completed at a small advance on this amount.

I visited the locality with Mr. Mason, after Mr. McAllan's work was completed, and discussed with him the best way to expend the additional \$100 to the best advantage. The river, however, was then too high for us to decide definitely what was best to be done, which accordingly was left in a great degree to Mr. Mason's judgment.

On again visiting the falls after the \$100 had been expended, and when the river was low, I was much pleased with the work done and the judgment Mr. Mason had shown in laying out the money. The passage made seemed such as salmon would have little difficulty in ascending in any moderate freshet. Mr. Mason, to whom I had given instructions to make particular observations on this point, reported that salmon passed up over the passage thus made in considerable numbers, though with some difficulty. Possibly some additional work may be necessary, but I do not expect any great amount can be required.

*Work on Sumas River, Alberni.*

Since the building of a dam on this river to generate power for a pulp and paper mill, there have always been complaints as to the effect of this dam in preventing the ascent of salmon on their way to their spawning grounds. A fish ladder was put in but did not prove effective. The mill having ceased working the gates at the sluice

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way were removed and sockeye salmon during the season passed up this way without much difficulty. The heavier salmon (spring and dog) however were, at the time of their runs, in a great measure, blocked from ascending the river, and with the sanction of the Department, I had, under the supervision of Mr. Cox the local fishery officer, the rock at the end of the dam blasted down into steps so that, without the dam being in any way injured, these fish were able to get up last season.

Mr. Cox reports that this work was quite successful so far as letting the salmon get above the dam at the time of their run, but to be of advantage when the water is low some additional work is required.

In addition to this we had a blast or two put into the rocks at the falls on Sproat river (one of the forks of the Sumas), to facilitate the ascent of the salmon into Sproat Lake, containing a large area of good spawning ground. Owing to the nature of the rock however no effective work was done and the ascent of these falls is still only possible to large salmon during heavy freshets.

The cost of this work was very trivial, and if it should be practicable by an expenditure of \$100 or \$150, as Mr. Cox thinks, to provide a passage for the salmon over Sproat river falls at a medium stage of the water, the results would amply repay the outlay.

*Work on Nanaimo River.*

The falls on Nanaimo river have always formed an obstacle to the ascent of salmon to Nanaimo lakes and the spawning grounds contained within their water system.

An amount of \$400 appropriated to facilitate the ascent of fish over these falls was expended under the supervision of Mr. McIndoo, the local fishery officer, with the most gratifying results. A passage over the falls was formed, through which salmon and other fish can pass without any difficulty at a moderate stage of water. This year, the river was too low for the salmon to reach the falls for some time, but when the rains did come these no longer formed any obstacle to their further ascent.

The expenditure was kept within the amount appropriated but this was only possible through the assistance of the city of Nanaimo in supplying tools and of the Powder Co. in letting us have the powder at a low rate and donating enough to complete the work after the appropriation had been exhausted.

With a view to taking advantage of the work done, in case the additional spawning ground thus opened up might prove suitable for the sockeye salmon, I had 30,000 fry of this variety put into the lake above, and intend taking over a further supply of this season's hatching when they are ready to distribute.

I have the honour to be, sir,  
Your obedient servant,

C. B. SWORD,  
*Inspector of Fisheries.*



## ANNEX C.

REPORT ON OYSTER CULTURE BY THE DEPARTMENT'S EXPERT  
FOR THE SEASON OF

1902

CHARLOTTETOWN, P. E. ISLAND, December, 31, 1902.

To Professor E. E. PRINCE,  
Dominion Commissioner of Fisheries,  
Ottawa.

SIR,—I have the honour to submit to you my annual report of last season's work in Nova Scotia, New Brunswick and Prince Edward Island.

*Annapolis Basin, N. S.*

Shortly after the opening of navigation I received instructions from the Department to proceed to Annapolis County to complete the planting of oysters around Goat Island, where grounds had been prepared the fall before, also to plant a few oysters as an experiment at different parts of the basin with a view of extending the ground as much as possible where it was thought most desirable to place them, the bottom being of a rocky nature with stones and firm sand.

Having made the necessary arrangements with Inspector Matheson to secure the young oysters from Curtain Island, Prince Edward Island and forward them, I proceeded to Clementsport, Nova Scotia, and remained there until I had received all the oysters required and planted the same.

They were deposited as follows: twenty-four barrels on the area prepared the previous fall, five barrels off and around Pompey and Gull ledges, two barrels above Moose river outside of Seal ledges, two barrels at the mouth of Moose river, one barrel off Ray's Point and nine barrels off Deep brook and ledges adjoining, making a total of forty-three barrels. I examined some of the first consignment before I left Clementsport and found the shells had already put on quite a growth although they had only been transplanted about sixteen days.

*Mira, C. B.*

During the latter part of August I visited Black brook, Mira river, where Mr. James Miller has been making some experiments by placing bundles of brushwood, and driving stakes in the river with a view of collecting oyster spat. Upon examination of this river in company with Mr. Miller we found numerous old stakes, sunken logs and driftwood covered with last year's oyster spat, and strange to say none of the stakes which were placed there by him had any oysters on them, and on the twigs only one or two young oysters were found on those we examined, although we did not raise every bundle that was placed in the river. At the time of my visit the water was high, black and very fresh, owing to the wet weather of late, and I could not detect any salt in the water by tasting the same. The bottom of the river is composed of soft mud where the shallow flats extend while there is a narrow channel with from 8 to 12 feet water in it. Last season Mr. Miller placed 40 stakes and 173 bundles of brushwood early in July, and this season he placed 25 stakes during the month of June, but so far nothing is noticeable on them. Mr. Miller also proposes placing some stones on an area where the bottom is a little firmer and a sandy bar runs off, and try and catch some spat there. Everything in the shape of a fish net stake, old logs, stumps and roots of trees, branches both green and dry, which have fallen into the water were found with oysters attached to them, but those placed there by him thus far have not proved successful.

The oysters of these waters grow very fast, have very soft white shells, and will not stand transit any distance without breakage, consequently will not keep any length of

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time, the flavour of the oyster is insipid, owing to so much fresh water running through these brooks and rivers.

Large quantities of mussels are also attached to these obstructions which were found submerged in the water.

I have previously visited Black brook but did not consider the waters of any value as an oyster growing area, owing to the softness of the bottom, the water being so brackish and the oysters found were composed of very thin and little shells which I have previously referred to.

*Murray Harbour, P.E.I.*

On my arrival here I made a thorough examination of the reserved area which was planted with young oysters the season before last. The oysters are growing very fast, are now of a good size; they have developed into a nice looking oyster, and no mortality was noticeable on the beds, but during the last season I found the eelgrass had grown long and thick over the area, and was engaged in removing same before I left there, otherwise the ground was clean and firm, nothing had been done to this bed since it was planted in the way of cleaning it, and a little raking over soon put it in good condition.

I did not notice many young oysters in the vicinity although I saw a few and thought it advisable not to suggest any fishing on these beds for the present, as the longer they are left the more they become acclimatized to the water giving them a better opportunity of throwing off their spat and allowing it to grow to maturity.

No further action has been taken in appointing an officer or warden able to overlook the oyster grounds from his own residence and a boat, as the person at present, holding the appointment is living a considerable distance from the area and is able to see it only occasionally.

*Savage Harbour.*

My attention was called to a report that oysters were found in this harbour and upon examination accompanied by Fishery Guardian James Feehan of French village, I found the area situated on the foreshores of the eastern side of the harbour. A few scattered oysters are found on a sandy bottom among the weeds and mussels growing around.

There is really no oyster bed, and one can wade in at all times of the tide and pick them up, in fact, at a low tide one would be able to pick many of them up without getting at all wet.

No cultivation could be carried on here, and the total number of oysters taken only amounts to a very few barrels. No oysters or signs of them were found in the channel, which is of a shifting sandy nature and clear of eelgrass or weeds.

In the south-west part of this harbour there is a firm sand and muddy bottom covered with large and small stones, shells and a quantity of mussels growing over this area in a depth diminishing from 10 feet, and gradually shoaling until it reaches the shore where oysters have from time to time been found in small quantities, and it is my opinion that the spat from some of these oysters has been carried by the current on to the flats, and has lived and grown very fast, owing to the shallow water becoming soon heated by the sun's rays striking on the sand at low tide.

Small oysters have also attached themselves to the bridge at the head of the harbour and on the mussel beds just below the bridge, there are also several mussels growing along the shores all around the harbour.

I do not consider any further action can be taken here beyond observing the close season and size limit, as it would be impossible for a steamer to enter this harbour as the bar is composed of shifting sand, and only small open boats can enter here, in fact an ordinary row boat could not be rowed over. Where these oysters were found at low water time, the water was very clear, and the bottom could be distinctly seen all over the harbour during the time of examination.

*Lot 6 and Lot 10.*

I also visited rivers in the above lots in company with Inspector Matheson with a view of setting apart certain areas for mud digging and oyster fishing privileges, but owing to the lateness of the season was unable to make a thorough examination. We obtained all the information possible from farmers and fishermen in the district, and decided to reserve an area in Lot 10 river for the exclusive use of fishermen extending from Goff's bridge down to Paul Gallant's point, above and below this area to be open for the use of mud diggers.

In Mill river Lot 6 most of the beds appear to run along the shores from the channel, into the edge of the river, there are also several small beds in the middle of the stream, many of them marked off by farmers to dig on during the coming winter, these might be used by mud diggers until an examination is made, but the whole river appears to be cut up by mud-digging machines. The beds we examined were largely composed of mussels with a few oysters and shells on the surface.

Oysters appear to be more numerous in these rivers this last few seasons than formerly. I do not think much can be done to improve the grounds, owing to the quantity of mussels growing in these rivers, apart from reserving areas for the use of the fishermen, as I do not consider it advisable to have the whole area destroyed if certain parts can be saved.

*Shediac, N. B.*

During the summer a petition was largely signed by the residents of Shediac and vicinity, praying for a change in the oyster regulations of that place so as to enable clam fishing to be carried on in certain areas, and in compliance with the above request, Inspector Chapman and myself, after an examination set aside a certain portion of the bay on the northern side of the reserved area for clam fishermen to fish upon, and after submitting the facts to the department for its consideration the following Order in Council was passed :—

"That the Order in Council, dated December 16 1892, setting apart certain waters in Shediac Harbour for the natural and artificial propagation of oysters be amended by permitting digging for clams in that area north of a line drawn from the road leading from the highway to the shore, (about a quarter of a mile north of Wilburs' tannery) on the mainland to Mr. Petitpa's house on Shediac island."

I then placed a number of stakes from each mark in a straight line across the bay for the guidance of fishermen and fishery officers giving instructions for all to govern themselves accordingly. On the first day this area was thrown open for public clam fishing, 39 boats with nearly double that number of men availed themselves of the opportunity thus granted them, the number afterwards increased to nearly 50 boats.

This does not in any way affect the oyster beds which were planted here as the dividing line separates the two areas. The object of having this area closed from public fishing &c., was to protect it from being destroyed by mud digging, until it is decided to extend the cultivation of oysters in the inclosure on the beds of which there are several.

Fishing for quahaugs or hard shell clams during the past few years has been increasing very fast and thousands of barrels have been shipped to the United States, bringing in quite a large revenue to the fishermen. Up to the present time there is no protection for them whatever; if the demand continues much longer, as there is every appearance of its doing, it will exceed the supply, and the sooner action is taken in this matter the better it will be for both oysters and clams, as the latter are found on both live and dead oyster-beds, and it is exceedingly dangerous to oyster-beds to have them raked over by the clam fishermen during the spawning season. The hard shell clam burrows on an oyster-bed, while the soft shell clam is found in sand and mud at about low water mark, the latter is used chiefly for bait while the former is used exclusively for edible purposes and this is the kind we have chiefly to do with.

Up to the present time clams have been fairly numerous and the fishermen have been making good wages, while in other cases they have had to look for fresh fields to carry on their work, consequently there is already a sign of scarcity upon some of the beds, and now is the time to establish regulations before the beds become depleted.

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I would suggest that a close season be established, and that the clam and oyster come under the same regulations. Both species grow on the same area, and during the summer months clams are sent through to the United States, where, I believe, a close season exists from June to September, consequently there is a greater demand during the summer months for Canadian clams, and our oyster beds must suffer under the heavy strain of being raked when nature demands rest.

While in Shediac my time was also occupied in cleaning two of the beds on the reserved area which were not touched last year. On examination I found several small oysters on the beds, but weed and sediment were beginning to accumulate and the areas required cleaning. I was engaged here in raking over the grounds until late in the season when the weather became too cold to continue working any longer and after the first snow storm had set in I removed my stakes from the grounds, picked up my moorings, ran for Point du Chene and on the first favourable opportunity sailed for Charlottetown, P. E.I., where I placed the steamer in her winter quarters.

*Lobster Protection.*

From September 6 to 13 my time was engaged in rendering assistance to Inspector Chapman by patrolling along the shores off Chockfish, Cocagne, Cape Bald and Shemogue accompanied by Overseer Arseneau. We seized what lobster gear we found in the above localities where persons were still continuing to catch lobsters illegally, although an extension had been granted them this season. On September 15, we proceeded to Tormentine where Fishery Officer Noonan accompanied us and remained there until the October 31, when we returned to Shediac.

The illegal lobster fishing is being prosecuted on a very large scale around Cape Tormentine and Bay Verte and stronger measures should be used to suppress this illegal practice which is carried on in a most daring manner. They have very strong, fast and seaworthy lobster boats and carry on their fishing with a system of signals from their friends on shore and thus elude the vigilance of the officers rendering difficult to secure a conviction against them. We destroyed a large number of traps, also seized good rope and anchors which were landed at Tormentine and handed over to Fishery Officer Copp. Bad weather prevented us from going out each day, but whenever an opportunity offered itself we took advantage of it. I consider one of the patrol boats should be placed in this locality and inform fishermen at the close of the season that unless all their gear is promptly taken up after the close season it will be seized. This boat should remain in the locality until all the gear is removed, whether by the fishermen or the officers.

*Oyster Size Limit.*

I again wish to call your serious attention to the size of our oysters as they are sent to market much too small for the merchants who buy them from the fishermen and for the consumer. This is a loss to the beds to have such valuable oysters removed just as they are maturing. There is a very strong feeling among fishermen and wholesale buyers that the size limit is too small, and while it is really legal to catch these small oysters, they are not actually large enough for market, but fishermen will catch them, and the packers are compelled to accept them when they are brought in from the beds and offered for sale.

The demand for oysters is becoming greater each year and now already exceeds the supply. This must eventually lead to the depletion of our public beds unless other measures are adopted to preserve them.

The regulation governing the size limit has been misunderstood from the very time it came into force, and the longer it is left the worse it will become for all those connected with oysters. Clause 6 of the oyster regulations reads as follows:—"No person shall fish for, catch, kill, buy, sell, or have in possession any round oysters of a less size than two inches in diameter of shell, or any long oysters measuring less than three inches of outer shell." Fishermen will argue that any oyster exceeding two inches in length is a round oyster, and it appears so as it is not fully grown or developed, and these men will often take all that comes to the net without any thought of the future. This two inch size limit was expressly made for the Caraquette oysters,

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although not mentioned in so many words, but I would respectfully suggest that this clause be amended without any further delay, to read somewhat as follows:—"No person shall fish for, catch, kill, buy, sell, or have in possession any oyster measuring less than three inches of outer shell, with the exception of those taken from Caraquette and the waters of Gloucester county, when the minimum size limit of outer shell must exceed two inches length or diameter."

Three inches diameter of shell implies a very small oyster, and this size is the lowest limit that it is possible to specify to be of any benefit or value to the industry when one considers that if they were left in the water they would soon more than double their size and bulk, and that these oysters are taken from the natural beds and placed on the market for edible purposes.

#### *Private Areas for Licenses.*

Licenses for areas of ground for cultivating oysters were issued by the department for a term of nine years, until within a few years ago, when the provincial governments claimed the ownership and rights over oyster-beds, and since that time nothing has been done in the way of increasing the number of licensed areas either by the provincial governments or the Marine and Fisheries Department, consequently there is a backward tendency and it is a great drawback to the industry not to encourage private cultivation to be carried on as formerly. I have been asked by several persons who are interested in the oyster culture when they would be able to take up an area and cultivate oysters, but at present a satisfactory answer is not possible, and if an understanding with the provincial governments is soon reached that this industry might be encouraged and not checked.

Between 1,100 and 1,200 acres were leased, when the department gave over control, and I sincerely regret that no other step has since been taken in encouraging this industry. The maintaining of a continuous supply is a national benefit. Persons holding oyster areas have no control of the spat, as it floats away from the parent oyster; one might by his own efforts secure some by artificial means, but the natural beds may receive a large share, or the spat may be spread over other areas forming new beds if the soil is suitably adapted to receive it, and thus assist in keeping up a supply which is very noticeably growing shorter.

The very foundation of the oyster industry is to bring it more under private control, as the oysters taken from public beds will always find a ready market either direct with the consumer or the persons holding areas. Any parties going into this venture will find a ready sale for their products, and instead of monopoly it would be competition, which is the life of trade.

#### *New Steamer "Ostrea."*

For some time past the desirability has been pointed out of having a suitable steamboat built for the purposes of examining and cleaning the oyster areas in the lower provinces, and when I submitted last year's report a contract had just been awarded to the New Burrell Johnson Iron Company, Ltd., of Yarmouth, N.S., to build a boat according to plans and specifications approved of and sanctioned by the department. The steamer was built and fitted up during the spring of this year. She is named the '*Ostrea*,' which I think is most appropriate, being closely connected with the work upon which she is engaged.

After two official trial trips, in which she was reported to have made about eight knots an hour, I took her over from the builder's hands on June 23, and sailed on that day for Charlottetown, P.E.I., where I arrived on July 2nd, and from that date until the close of navigation, have been constantly engaged with her. She has proved herself a good sea boat, and is admirably adapted for the work in which she is specially engaged. Her dimensions are 50 feet keel, 13 feet beam, 4 feet 6 inches deep, and she draws 4 feet water.

I have the honour to be, sir, Your obedient servant,

ERNEST KEMP, *Oyster Expert.*

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## APPENDIX No. 12.

## REPORT ON THE FISHERIES PROTECTION SERVICE OF CANADA

By COMMANDER O. G. V. SPAIN.

FOR THE SEASON OF 1902.

OTTAWA, December 31, 1902.

To the Honourable  
The Minister of Marine and Fisheries.

SIR,—I have the honour to report on the work of the Fisheries Protection and Fisheries Intelligence Bureau services, under my charge for the past season, as follows :—  
The vessels under my command were :—

*Acadia*, Commander O. G. V. Spain ;  
*La Canadienne*, Commander W. Wakeham ;  
*Curlew*, Captain Pratt ;  
*Petrel*, Captain Dunn ;  
*Kingfisher*, Captain Kent ;  
*Osprey*, Captain Knowlton ;  
*Brant*, Captain McKinnon ;  
*Constance*, Captain May ;  
*Quadra*, Captain Walbran.

The *Quadra* was employed on the Pacific coast, as occasion required, but her main duty was the lighthouse and buoy service.

In addition to these vessels, the department built two sea-going steam patrol launches, which have proved of inestimable benefit in patrolling the waters of the Bay of Fundy and the Cape Breton coast. There is also a third steam launch, which was built some time ago, and is engaged principally in the waters around Prince Edward Island. These launches were officered and manned from the crews of the various vessels ; one being attached to the *Kingfisher*, one to the *Osprey* and one to the *Curlew*.

It is my intention this season to recommend that the department should build a stronger and larger launch, to be attached to the *Acadia*.

The stations of the different cruisers were more or less as follows :—

The *Acadia* patrolling the coasts of the Maritime Provinces. This vessel was, for some considerable period this summer, detached from the fleet, and placed at the disposal of His Excellency the Governor General, at Quebec. His Excellency and party made several cruises in her, one of them being up the Saguenay as far as Chicoutimi, and in recognition of the various trips taken on board, the officers of this ship had the honour to be presented with a silver cup by His Excellency. Unfortunately, however, after having the use of the *Acadia* for about three weeks, she was run into and badly damaged whilst at anchor off King's wharf, Quebec, by the Black Diamond Line steamship *Symra*. This necessitated her being put under immediate repairs at Quebec, which took about six weeks to accomplish. She then proceeded back to her station and took up her regular work.

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I may add that this vessel, though in fairly good order as regards her hull, is not sea-worthy as regards her boilers and engines; they have been taken the greatest care of by the chief engineer, Mr. Mooney, but are twenty-three years old, and nothing will last forever.

*La Canadienne.* This vessel works independently of the rest of the fleet, and is under the charge of Commander Wakeham. She is principally engaged in looking after the fisheries on the Labrador coast. This ship has been very unfortunate this year, having been quarantined at Grosse Isle for three weeks owing to a case of small-pox on board; shortly afterwards she ran into a heavy gale of wind off Anticosti, her decks being swept and some boats lost. The report for this vessel will be found amongst the fishery inspectors' reports.

*Curlew.* The usual patrol of this vessel is in the Bay of Fundy, but on account of the large number of United States' vessels on the coast this season, I have had to employ her in various other localities. She was stationed for some three weeks in the Bay Chaleurs to assist the local officers, with the aid of a steam launch, in carrying out the regulations in reference to the salmon fisheries.

*Petrel.* This vessel is entirely employed on the great lakes, principally on Lake Erie; she has done most excellent service this season in stopping the depredations of United States poachers. She has also been found useful on various occasions with regard to the lighthouse and buoy service.

*Osprey.*—This vessel's headquarters are at Canso, and this season she was employed in patrolling the coast from Liscombe to Louisburg. The *Osprey*, although some six years old, is still regarded as one of the finest schooners on the coast.

*Kingfisher.*—This vessel is stationed on the Prince Edward Island and western Cape Breton coast, with headquarters at Souris, P. E. Island. She has been largely engaged, with the assistance of the patrol boat attached to her, in suppressing illegal lobster fishing. Both this vessel and the *Osprey* have done excellent work.

*Brant.*—This vessel has been chiefly engaged in endeavouring to suppress illegal lobster fishing in the Strait of Northumberland. Overseer Hobkirk, of Prince Edward Island, has been in charge of her. In addition to this work, during the open season for lobster fishing, this vessel has been engaged under the control of the agent of the department at Charlottetown, in lighthouse and buoy service.

*Constance.*—This vessel though managed by this department so far as manning and discipline go, is entirely under the control of the department of Customs, and in regard to her movements the instructions of Inspector Fred Jones are carried out.

*Kestrel.*—This is a new vessel which is being built in British Columbia for the protection of the fisheries on that coast. She is more or less a sister ship of the *Curlew*, and it is hoped that she will be launched in time for next season's work.

The department having built the three patrol boats mentioned before, found it unnecessary to charter tugs as we have been doing in previous years. It is found better to own our boats as, in addition to being more economical, the work, I think, is carried out in a more satisfactory manner. The fishermen are, I fancy, at last beginning to understand the absolute necessity for the protection of the lobster fisheries, and in most localities I found that the majority of them are quite willing to assist in bringing the few offenders to justice.

#### SEIZURES.

Captain Dunn of the *Petrel*, made several seizures of a large number of United States gill nets in Lake Erie. These were all sold and the amount realized by the sale placed to the credit of the Receiver General of Canada.

Captain Pratt of the *Curlew*, seized a number of American small schooners for violation of our fishery regulations and for preparing to use dynamite; but taking the season right through, we had little or no trouble with United States fishermen.

In reference to these vessels there has been rather a novelty on the Atlantic coast this season, one schooner being fitted with strong auxiliary steam power, and two others being fitted with gasoline engines; but inasmuch as it is the policy of the department to allow no fuel on board these vessels except wood, the steam seiner found

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herself unable to procure coal in our ports, and consequently her trip was not nearly as successful as it might have been.

I beg to point out the growing tendency amongst the French fishermen from St. Pierre, Miquelon, to enter our ports for the purpose of procuring bait and, as they do not come under the same system as United States fishermen, who have to procure licenses before doing so, I am afraid if the practice is allowed to be carried on, our own fishermen will feel the competition.

I attach a list of French fishing boats which entered the port of Sydney, Nova Scotia, last season. A large number of these vessels also went to the Magdalen Islands.

LIST of French Fishing Boats which enter the Port of Sydney, Nova Scotia, during the Season of 1902.

Date.	Vessel's Name.	Master's Name.	Ton.	Crew.	—
May 3.	All Rise . . . . .	Poirier. . . . .	11	5	Seeking Bait.
April 21.	Battinger . . . . .	Jessoun . . . . .	59	16	"
" 22.	Bativia . . . . .	Cohart . . . . .	59	20	"
" 21.	Eugenia . . . . .	Casanaugh . . . . .	15	8	"
May 1.	Eulelia . . . . .	Constantine . . . . .	56	20	"
" 5.	Etigen . . . . .	Casmanger . . . . .	15	8	"
Oct. 1.	Eulelia . . . . .	Constantine . . . . .	56	20	"
April 22.	Gabriel A. Peper. . . . .	Clements . . . . .	63	17	"
" 22.	Gustave Prosper . . . . .	Gauter . . . . .	55	16	"
" 30.	Galatia . . . . .	Choper . . . . .	61	22	"
" 25.	Jarva . . . . .	Courtney . . . . .	64	23	"
May 6.	J. L. C. . . . .	Cavalier . . . . .	58	21	"
April 21.	Maditeen . . . . .	LaFleur . . . . .	57	21	"
" 21.	Mazurka . . . . .	Brenson . . . . .	52	21	"
May 7.	" . . . . .	" . . . . .	52	21	"
April 26.	Novele . . . . .	Henrie . . . . .	63	20	"
" 21.	Progress . . . . .	Bussell . . . . .	22	16	"
" 23.	Peches Francis . . . . .	Grandes . . . . .	40	14	"
May 5.	Progress . . . . .	Victor . . . . .	22	16	"
April 19.	Sapho . . . . .	Poom . . . . .	63	20	"
May 3.	St. Paulese . . . . .	Fremal . . . . .	67	20	"
" 9.	Sapho . . . . .	Poom . . . . .	63	20	"
Sept. 29.	" . . . . .	" . . . . .	63	20	"
April 21.	Ten Nanac . . . . .	Neobly . . . . .	58	17	"
May 1.	Vigilant . . . . .	Rudlard . . . . .	32	16	"
April 28.	Gasimite . . . . .	Hubert . . . . .	54	18	"



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SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled 'An Act respecting Fishing Vessels of the United States of America' during the Year 1902.

Name of Vessel.	Port of Registry.	Tonnage.	Port of Issue.	Fee.
				\$ cts.
Titania.....	Gloucester, Mass.....	77	Canso, N.S.....	115 50
Loring B. Haskell.....	Boston ".....	67	Yarmouth, N.S.....	100 50
Samuel R. Crane.....	Salem ".....	52	".....	78 00
Nereid.....	Gloucester ".....	69	Liverpool, N.S.....	103 50
Argo.....	" ".....	80	Barrington, N.S.....	120 00
J. J. Flaherty.....	" ".....	124	Pubnico, N.S.....	186 00
Arkona.....	" ".....	97	Yarmouth, N.S.....	145 50
John L. Nicholson.....	" ".....	92	".....	138 00
Blue Jacket.....	" ".....	86	".....	129 00
Fernwood.....	" ".....	96	".....	144 00
Helen F. Whitten.....	" ".....	92	".....	138 00
Parthia.....	" ".....	77	Tusket Wedge, N.S.....	115 50
H. L. Trask.....	" ".....	48	Pubnico, N.S.....	72 00
Valkyria.....	" ".....	104	".....	156 00
A. R. Lawson.....	" ".....	85	".....	127 50
H. A. Nickerson.....	Booth Bay, Me.....	83	".....	124 50
Meteor.....	Gloucester, Mass.....	96	".....	144 60
Virginia.....	" ".....	81	Liverpool, N.S.....	121 50
Jubilee.....	" ".....	87	Louisburg, N.S.....	130 50
Nonna.....	" ".....	77	Shelburne, N.S.....	115 50
Aloha.....	" ".....	100	".....	150 00
Dora Lawson.....	" ".....	93	Tusket, N.S.....	139 50
Mabel D. Hines.....	Beverly ".....	92	".....	138 00
Shenandoah.....	Gloucester ".....	77	".....	115 50
Henry M. Stanley.....	" ".....	83	".....	124 50
Wm. E. Morrissey.....	" ".....	93	".....	139 50
Elector.....	" ".....	84	".....	126 00
Margaret.....	Beverly ".....	107	".....	160 50
Acadia.....	Gloucester ".....	90	".....	135 00
Georgie Campbell.....	" ".....	78	Yarmouth, N.S.....	117 00
Maxime Elliott.....	" ".....	75	Lockeport, N.S.....	112 50
Gossip.....	" ".....	91	Halifax, N.S.....	136 50
Tattler.....	" ".....	135	Shelburne, N.S.....	202 50
Slade Gordon.....	" ".....	88	Liverpool, N.S.....	132 00
Masconomo.....	" ".....	67	Shelburne, N.S.....	100 50
Columbia.....	" ".....	89	Pubnico, N.S.....	133 50
Sceptre.....	" ".....	91	".....	136 50
Maggie and May.....	" ".....	88	Yarmouth, N.S.....	132 00
Florence.....	" ".....	63	Shelburne, N.S.....	94 50
Essex.....	" ".....	84	Lockeport, N.S.....	126 00
Harvester.....	" ".....	76	Whitehaven, N.S.....	114 00
Joseph W. Lufkin.....	" ".....	80	Barrington, N.S.....	120 00
Edward A. Perkins.....	" ".....	58	Canso, N.S.....	87 00
Marguerite.....	" ".....	81	Liverpool, N.S.....	121 50
Lizzie M. Stanwood.....	" ".....	76	".....	114 00
Martha A. Brady.....	Eastport, Me.....	53	Shelburne, N. S.....	79 50
Laurence A. Munroe.....	Gloucester, Mass.....	84	Pubnico ".....	126 00
Indiana.....	" ".....	88	Shelburne ".....	132 00
S. P. Willard.....	" ".....	87	Canso.....	130 50
Helen G. Wells.....	" ".....	67	Port Hawkesbury, N.S.....	100 50
Anglo-Saxon.....	" ".....	72	".....	108 00
Ella M. Goodwin.....	" ".....	86	".....	129 00
New England.....	" ".....	59	Pubnico, N.S.....	88 50
Nellie T. Gaskill.....	Cutler, Me.....	14	North Head, N.B.....	21 00
Arbitrator.....	Gloucester, Mass.....	72	Tusket, N.S.....	108 00
Bohemia.....	" ".....	86	".....	129 00
Bertha D. Nickerson.....	Booth Bay, Me.....	89	Liverpool, N.S.....	133 50
Carleton Bell.....	Wiscasset ".....	104	".....	156 00
Satellite.....	Lubec ".....	18	North Head, N.B.....	27 00
Isaac Collins.....	Provincetown, Mass.....	93	Canso, N.S.....	139 50
Anna L. Sanborn.....	Beverly ".....	17	Yarmouth, N.S.....	25 50
Levanter.....	" ".....	27	".....	40 50
Caroline Vought.....	Vinal Haven, Me.....	48	".....	72 00
Edward Trevo.....	Gloucester, Mass.....	66	Pubnico, N.S.....	99 00
Emma Witherell.....	" ".....	81	N. Sydney ".....	121 50

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SCHEDULE of United States Fishing Vessels to which Licenses were issued—*Concluded.*

Name of Vessel.	Port of Registry.	Tonnage.	Port of Issue.	Fee.
				\$ cts.
Flirt .....	Gloucester, Mass.	82	Amherst, M.I., Que.	123 00
Edith M. Prior .....	" "	78	" "	117 16
Lizzie M. Stanley .....	" "	92	" "	138 17
Annie Greenlow .....	" "	69	" "	103 66
Effie M. Morissey .....	" "	83	" "	124 66
Fannie W. Freeman .....	Provincetown "	64	St. Peters, N.S.	96 00
Gloriana .....	Gloucester "	76	Canso "	114 00
W. H. Moody .....	" "	48	Port Hawkesbury, N.S.	72 00
M. B. Stetson .....	Buckeport, Me.	94	St. Peters, N.S.	141 00
Ralph H. Hall .....	Gloucester, Mass.	90	Canso "	135 00
Eglantine .....	" "	67	Yarmouth "	100 50
Wm. Matheson .....	Provincetown "	72	St. Peters "	108 00
Lizzie Maud .....	Vinal Haven, Me.	48	Yarmouth "	72 00
Juinata .....	Boston, Mass.	49	Shelburne "	73 50
Ada S. Babson .....	Buckeport, Me.	99	St. Peters "	148 50
Cosmos .....	S. W. Harbour, Me.	25	Liverpool "	37 50
S. L. Foster .....	Cranberry Isles "	30	Lockeport "	45 00
Bertha May .....	Vinal Haven "	47	Barrington "	70 50
Howard Holbrook .....	Gloucester, Mass.	68	" "	102 00
Edith McIntyre .....	Booth Bay, Me.	96	St. Peters "	144 00
" .....	" "	96	" "	144 00
Vanguard .....	Cranberry Isles, Me.	25	Lockeport "	37 50
John Nye .....	Buckeport "	38	Shelburne "	57 00
Vigilant .....	Gloucester, Mass.	87	Canso "	130 50
Total .....		6,743		10,115 15

\* For 1901.

Number of vessels (including Edith McIntyre for 1901)....	89
Amount of tonnage.....	6,743
Amount received for fees .....	\$10,115 15

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LIST of United States Fishing Vessels which have entered Canadian Ports for the year ending October 31, 1902; showing net tonnage, crew and the number of times each Vessel entered the several Ports.

(These vessels have nearly all been boarded by the Dominion Cruisers, either in our ports, or inside the territorial limits, as well as reporting at the Custom Houses in the Various Ports.)

Number.	Name of Vessel.	Net Tonnage.	Number of Men.	Aitchat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockport.	Louisburg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whithead.	Yarmouth.	Total Entries.
1	A. E. Whyland.	96	18							1	2											3
2	A. M. Nicholson.	100	20															2				2
3	A. S. Caswell.	46	16																		1	1
4	A. T. Gifford.	58	16					1		1								3				5
5	Ada K. Damon.	89	13												1							1
6	Ada S. Babson.	94	17												1							1
7	Admiral Dewey.	78	19					3		1		1			1							5
8	Agnes E. Downes.	59	14					1														1
9	Agnes G. Gleason.	44	16							1								2				3
10	Alcine.	51	18															1				1
11	Alice M. Jacobs.	88	22					1														1
12	Alice R. Lawson.	86	18			2		1	1	1											3	8
13	Alice S. Hawkes.	38	16			2																2
14	Alsha.	100	21							1								2				3
15	Alva.	74	18								1							3				4
16	American.	99	18							1												1
17	Anglo-Saxon.	72	18	1											1				1			3
18	Annia L. Sanbourne.	17	8																		3	3
19	Annie Greenlow.	69	18			3	1							1								5
20	Annie M. Parker.	100	18			1								1								2
21	Annie Wesley.	65	17							2												2
22	Arbitrator.	72	18																		2	6
23	Arbutus.	86	20							1					2			3				18
24	Arcadia.	90	20							3				4	1					3		16
25	Argo.	80	18	3		8				1				1	1			1	1			11
26	Arkona.	97	21			5								4						2		4
27	Arthur Binney.	112	22							1				1								2
28	Atlanta.	74	18										1					1				6
29	Belle Franklin.	52	16		4															2		1
30	Belle J. Neal.	76	18																1			1
41	Benjamin F. Phillips.	102	22															1				2
32	Bertha D. Nickersen.	89	21							1					1							3
33	Bertha May.	47	18		2																	7
34	Bertha and Pearl.	77	18							1				1					1			3
35	Bessie M. Devine.	91	17			2	1			1				1					2			7
36	Blanche.	78	20			1								1				1				3
37	Blue Jacket.	86	18			6	1							1							2	10
38	Bohemia.	86	18			2								3						6		11
39	Braganza.	67	18							1								4		1		6
40	Canopus.	73	18							2									1			3
4a	Carleton Belle.	104	18							4	3							1				7
42	Caroline Vought.	48	16		3		1			4		1								4		13
43	Carrie C.	71	16	1														3				4
44	Carrie M. Babson.	62	16							1	1											2
45	Cavarie.	59	14							1												1
46	Cecil H. Low.	75	14							1								1			1	3
47	Centennial.	86	17				1															1
48	Columbia.	89	18		4	2								2				1		2		11
49	Colonial.	79	18															1				1
50	Corona.	82	17							3												3
51	Corsair.	78	19				1			1												2
52	Cosmopolitien.	40	9								2							2				4
53	Cosmos.	25	10			2	1			1	2							1				7
54	Constellation.	89	19			2				1				2				1				6
55	Dauntless.	77	17			1								2								3
56	David Sherman.	67	16				2													1	3	6
57	Dictator.	92	20							1											1	2
58	Dora A. Lawson.	93	18			1				1				2							2	6

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List of United States Fishing Vessels which have entered Canadian Ports for the year ending October 31, 1902, &c.—Continued.

Number.	Name of Vessel.	Net tonnage.	Number of men.	Archat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Lacombe.	Liverpool.	Lockport.	Louisburg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total entries.
59	Dreadnought.....	74	17							1	1											2
60	E. C. Hussey.....	41	18		2																1	3
61	E. S. Eveleth.....	61	16															3				3
62	Edith Emery.....	86	15															1				1
63	Edith M. Prior.....	78	19			2				2					1			5			2	12
64	Edna Wallace Hooper.....	97	18		1		1			2					1					1		6
65	Edward A. Perkins.....	58	18		1					1								2				4
66	Edward A. Rich.....	79	16		1													1			1	1
67	Edward Trevo.....	66	18			4		2		1								1			1	9
68	Edwin B. Holmes.....	49	15		1					1								1			4	7
69	Effie M. Morrirey.....	83	20			2				1								1				4
70	Eglantine.....	67	18			1															2	3
71	Elector.....	84	20			1								1							3	5
72	Electric Flash.....	80	18			1				1										1		3
73	Ella G. King.....	52	12							1								1				2
74	Ella M. Goodwin.....	86	20			1		1		2					1			6				11
75	Ella M. Jacobs.....	88	22							1												1
76	Ellen F. Gleason.....	42	16															1				1
77	Emma E. Witherell.....	81	18			3				2		1		2								8
78	Emma and Helen.....	62	18					1		2												3
79	Essex.....	84	18			1					2											3
80	Estelle S. Numan.....	33	7																		1	1
81	Everett Pierce.....	68	15		1					1											1	3
82	Fannie S. Orne.....	61	13															2				2
83	Ferdinand.....	96	18																		2	2
84	Fernwood.....	96	18			4		1			1				1							7
85	Flirt.....	82	23			2				1					1			1			1	6
86	Florence.....	63	13	4		1				1					1		1					8
87	Flousta.....	63	12												1			1				2
88	Frank G. Rich.....	72	16			1															1	2
89	Gardener W. Tarr.....	62	14									1									2	2
90	George E. Lane, Jr.....	73	13															3				3
91	George F. Edmunds.....	100	17												1					1	1	4
92	Georgie Campbell.....	78	20			1								1								1
93	Gilbert Geizer.....	53	16																		1	1
94	Gladiator.....	75	18	1				1														2
95	Gloriana.....	76	18			2								1				3				6
96	Golden Hope.....	76	18			2									1							2
97	Golden Rod.....	98	18												1							1
98	Gossip.....	91	20	1		2		1	1	2				1		1	1	4				13
99	Grace Darling.....	47	16		1													2			4	7
100	Grace Otis.....	54	14		2																	2
101	Grayling.....	87	18			1					1				1							3
102	Harbinger.....	46	14															1				1
103	Harriet W. Babson.....	99	18			1		1						1								3
104	Harry G. French.....	67	16							2												2
105	Harry L. Belden.....	117	20																		4	4
106	Harvard.....	76	18														1					1
107	Harvester.....	76	20			1		1			1							4		1	4	12
108	Hattie A. Heckman.....	76	18								1											1
109	Hattie L. Trask.....	48	17			1		2				1		2				2			3	12
110	Hazel Oneita.....	73	18					1		2	1				2						2	10
111	Helen F. Whittin.....	92	20					1				1		4				1			3	10
112	Helen G. Wells.....	73	18	1	1	1				2		1		1	1			2		1		11
113	Henry A. Nickerson.....	83	20					1						3							3	7
114	Henry M. Stanley.....	88	18			3		1				3		2							1	10
115	Hiram Lowell.....	95	18							2												2
116	Horace B. Parker.....	67	21	1		2									3							6
117	Howard Holbrook.....	80	16		1	2				3	1				1							8
118	Illinois.....	78	20			1									1			1				3
119	Independence.....	102	22							1												1
120	Indiana.....	88	20			1		1		1				1				9				13

LIST of United States Fishing Vessels which have entered at Canadian Ports for the Year ending October 31, 1902, &c.—*Continued.*

Number.	Name of Vessel.	Net tonnage.	Number of men.	Archat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisbourg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total entries.
121	Iolanthe	49	14								2											2
122	Irene & May	62	16															1				1
123	Isaac Collins	93	29			1																1
124	Ivanhoe	91	19					1														1
125	J. E. Garland	57	14															1				1
126	James A. Garfield	50	17	3														1				3
127	James G. Blain	78	18							1								1				2
128	Jennie B. Hodgdon	85	22					1		1					1			2				5
129	Jennie & Agnes	85	18							1								1				2
130	John J. Flaherty	124	22			1		1				2		2				1				9
131	John L. Nicholson	92	18		3					1											3	7
132	John Nye	38	14		1		2	6		1								2				12
133	Joseph P. Johnson	93	21								1							2				3
134	Joseph W. Lufkin	80	20	3	3					2								2				10
135	Joseph Warren	40	16	1																		1
136	Jubilee	87	18	1		1					1			1	2		2	3				11
137	Judique	89	20		2					1	1							3			2	9
138	Juniata	49	18		1							1						4			1	6
139	Kearsage	93	17		1		2						1							1		6
140	Kentucky	91	19		2									1				4				7
141	Landseer	71	18				1											1				2
142	Latona	71	17		1					1		2		2								6
143	Lavanter	27	15																		5	5
144	Lawrence A. Munroe	84	16		2			1				1								2		9
145	Lawrence Murdock	42	16							2								1			3	3
146	Lena & Maud	75	17				3					1						3				7
147	Lewis H. Giles	94	17		1					3				1							2	7
148	Lizzie Griffin	71	23	1																		1
149	Lizzie M. Stanley	92	20		1													1			1	3
150	Lizzie M. Stanwood	76	18					2		3			1	2								8
151	Lizzie Maud	48	18								3										1	4
152	Loring B. Haskell	67	20		1															16		17
153	Lorna Doone	48	12		1																	2
154	Lottie Byrnes	68	15															1				1
155	Lottie G. Merchant	79	18		1		2							2	1							6
156	Lucinda I. Lowell	77	18		1		1			2					2			1				7
157	M. B. Stetson	94	17												1							1
158	M. H. Perkins	50	18	2														1				3
159	Mabel D. Hines	92	19		3									1							2	6
160	Madonna	79	18				1													2		3
161	Maggie and Hattie	59	21	1																		1
162	Maggie and May	88	19											8				1			3	12
163	Maggie E. Turner	44	14															2				4
164	Maggie Sullivan	123	20															2				2
165	Manhasset	79	23	1																		1
166	Margaret	79	18				1			1								1				3
167	Margaret Leonard	20	10							1								1				2
168	Margaret	107	20		3	1					1			4	1						1	11
169	Marguerite	81	21							1												1
170	Marion E. Turner	45	14															1				1
171	Marsala	54	14															3				4
172	Marshall L. Adams	91	21							1								1				2
173	Martha A. Bradley	72	14	2		1		1		1		1			2			1			1	10
174	Mary Harty	77	18				1															1
175	Mary T. Fallon	50	14															1				1
176	Masconoma	67	20		1						5											7
177	Massachusetts	102	22		3					1								1				4
178	Malta Kissett	50	18		2																	2
179	Matthew Keaney	47	13															2				2
180	Maud M. Story	53	13							1								3				4
181	Maxime Elliott	75	22		1					1	2	1										5
182	Meteor	96	18		2			1		1							1	2			2	9

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LIST of United States Fishing Vessels which have entered at Canadian Ports for the  
Year ending October 31, 1902, &c.—Continued.

Number.	Name of Vessel.	Net tonnage.	Number of men.	Archat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisbourg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total entries.
183	Miranda	76	18						4	1								2				7
184	Mist	48	16			1																1
185	Monarch	92	18			1																1
186	Mystery	89	18																		2	2
187	Nannie C. Bohlin	96	18					2						1				1				4
188	Nellie Dixon	58	14																		2	2
189	N. Ilie Franklyn	68	18							1												1
190	Nellie M. Snow	61	16							1												1
191	Nelson Y. McFarland	65	13															1				1
192	Nereid	69	18			7				3								2		2	5	19
193	New England	59	16	1		2											2				1	6
194	Niagara	78	18			2		2		1	1				1							7
195	Nokomas	97	21												1							1
196	Noonday	71	18	1																		1
197	Norma	77	21			2					1							1				4
198	Norumbega	91	18					1														1
199	Norvahoe	91	20			1				2							1	1	1			6
200	Nourmahal	86	18			1		1						2				4				4
201	Olga	77	18					1														5
202	Oregon	79	18			1				2					3		3					9
203	Orinoco	88	18								1											1
204	Orpheus	74	16							4	1							3		1		9
205	Parthia	77	19			4					2			1						4		11
206	Pariot	58	14															2				2
207	Pauline	51	14															2				2
208	Pinta	68	17															1				1
209	Preceptor	89	20												1		1					2
210	Priscilla	73	14					1	1					1				2				5
211	Priscilla Smith	89	17			1						1		2				1			1	5
212	Procyon	85	16								2							1				3
213	Puritan	62	15												1							1
214	R. G. Trend	67	18								1											1
215	Ralph E. Eaton	47	12							1												1
216	Ralph F. Hodgdon	59	14	1											1							2
217	Ralph H. Hall	90	18			1					1			2								4
218	Ralph Russell	48	18																	1		1
219	Ramona	58	17			1									1			2				4
220	Regina	111	22															1				1
221	Reliance	83	18								1											1
222	Richard Wainwright	98	18					1										4		1		12
223	Rigel	87	18					1		6											1	5
224	Robin Hood	65	18			4																3
225	Rob Roy	79	18			1		1			1											3
226	Rozella	34	10							1								2				3
227	Ruth D. Nickerson	89	16					1														1
228	Ruth M. Martin	63	20							2	1							5			1	9
229	S. F. Maker	78	19			1		1						5								7
230	S. L. Foster	30	12								10											11
231	S. P. Willard	87	20			4				1								1				8
232	Samuel R. Crane	67	18																		8	8
233	Sarah E. Lee	74	18								1			2	1				2			6
234	Sceptre	91	20			1	1							1						2		5
235	Senator	74	18								1							1				2
236	Senator Gardener	94	21					3		1	1											5
237	Senator Saulsbury	77	18							3								2				5
238	Sheffeyld	61	15	3																		3
239	Shenandoah	77	19			5			1	1				1						2		10
240	Slade Gordon	89	20	1		4		1		2		1			2			3		1		15
241	Smuggler	91	18			2		1						1								4
242	Speculator	77	17			1		1	1	1		1		2				1				8
243	Sylvia M. Numan	33	12															1				1
244	Sythia	110	17			1					1			4				2				8

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LIST of United States Fishing Vessels which have entered at Canadian Ports for the Year ending October 31, 1902,—*Concluded*.

Number.	Name of Vessel.	Net Tonnage.	Number of Men.	Arschut.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisbourg.	Lumenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total entries.
245	T. M. Nicholson .....	91	18	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2
246	Tacoma .....	71	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
247	Tailsman .....	88	18	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	2
248	Tanlison .....	17	9	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	..	..	..	3
249	Tatrer .....	135	28	..	..	2	1	..	..	2	..	..	..	..	..	..	..	2	..	..	..	8
250	Thalia .....	78	17	3	..	..	..	..	..	1	1	..	..	..	..	..	..	3	..	..	..	7
251	Theodore Roosevelt .....	90	18	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	4
252	Titania .....	77	20	..	..	2	..	1	2	..	..	..	..	2	..	1	1	..	..	..	..	9
253	Triton .....	67	13	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	2
254	Uriel .....	69	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
255	Valkyrie .....	104	20	..	..	1	1	..	1	1	1	..	3	..	..	..	..	..	..	3	..	10
256	Vanguard .....	25	10	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
257	Vera .....	77	18	..	..	2	..	..	1	..	..	..	..	1	..	..	2	..	..	..	..	6
258	Vessa .....	75	16	6	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	7
259	Victor .....	75	18	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
260	Vigilant .....	87	18	..	..	1	..	6	..	..	..	..	..	..	..	..	4	..	..	..	..	11
261	Virginia .....	81	18	1	..	1	..	6	..	..	..	..	..	1	1	..	4	..	..	..	..	14
262	Volant .....	96	18	..	..	..	1	2	..	1	..	..	..	..	..	..	6	..	..	..	..	9
263	W. E. Morrissey .....	93	19	..	..	2	1	1	..	1	1	..	1	..	..	..	1	..	..	1	..	8
264	W. H. Moody .....	48	16	..	..	1	1	..	4	..	..	..	..	1	1	..	1	..	..	..	..	8
265	Wallace Hooper .....	97	18	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
266	William H. Rider .....	65	17	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	5
267	William Matheson .....	72	17	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2
Total .....		19,897	4657	15	52	200	2	72	30	167	43	48	6	111	43	1	14	238	4	20	173	1239

## ANNEX A.

### OFFICERS' REPORTS.

#### REPORTS OF CAPTAINS COMMANDING CANADIAN CRUISERS.

##### CRUISER 'OSPREY.'

To Commander O. G. V. SPAIN,  
Commanding Fisheries Protection Service of Canada,  
Ottawa.

SIR,—I have the honour to submit to you my annual report on the work performed by the ship under my command during the season of 1902.

Having received instructions from you during winter to commission the *Osprey* on May 10, I arrived at Shelburne on the 7th of that month, and found the work of fitting progressing slowly, weather being unfavourable. However, I succeeded in commissioning on the 14th, signed a small number of mostly inexperienced men, being all that was obtainable. Men were exceedingly scarce. On the 15th, unmoored and anchored in stream, and by your order on the 16th, weather being fine, we proceeded to sea, cruising eastward, arriving at Lunenburg same evening in search of men to fill up our crew. After several days we succeeded in getting two more men. Even then our crew was small. On the 21st we proceeded, arriving at Halifax that evening, where we replenished our stores and signed two more men, but their nautical education was mighty limited. However, we went to sea on the 23rd, cruising eastward. P.M. same day come to at Owl's Head, fog closing in. A.M. on the 24th, fog clearing, we proceeded. P.M. dense fog. Come to at Sheet Harbour, and was detained by a continuation of fog until the 29th, on which date we proceeded, and arrived at Whitehead at 4 P.M. same day. We remained here until the 31st in connection with our various duties, after which we went to sea, cruising eastward. P.M., strong N.W. winds, working up Chedabucto bay and anchored at port Port Malcolm that evening. Sunday, 1st of June, weather fine, went to sea, cruising south across the Chedabucto bay, and at 1:20 p.m. arrived at Canso. On the 2nd a fleet of six U.S. seiners came into port from the east, bound home, having done rather poorly. 4th, we proceeded to sea, cruising westward, and came to anchor off entrance Country harbour; dense fog, light southerly. 5th, reached Liscomb, found the cruiser *Acadia* in port, and sailed at once. On the 6th had a heavy norther, after which we proceeded and cruised eastward. The U.S. fleet having gone west, we proceeded to cruise on this station, carrying out several duties, until your orders by wire, when we proceeded to Port Hawkesbury and hauled ship on marine slip on July 1 and had ship's bottom cleaned and painted, which was much needed. We were detained on slip by a continuation of stormy weather until the 7th, when we went off slip and made sail, arriving at Canso that same evening. I received your telegram saying 'meet me to-morrow, afternoon train.' On the 8th, after taking water and stores, made sail and reached Port Hawkesbury. On that evening, on arrival of train, you joined the ship. A.M. on the 9th went to sea, cruising to southward. Passed through St. Peter's canal at noon. P.M. ran down lake, passing through grand Grand Narrows bridge at 4.15 p.m. Found the cruiser *Acadia* at anchor under Uniacke Point, near the bridge. You transferred to her. The *Osprey* proceeded on to Baddock, where we anchored until further orders, on the evening of the 10th, you came in on the *Acadia* and joined the *Osprey* again. On the 11th, cruising down lake passing out to sea at 11 a.m., arriving at North Sydney that afternoon, where we remained until the 15th, when we made sail and stood to sea. P.M., working through



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lake, fresh westerly. By times same evening come to at Baddock. 16th, working to windward again. 1.55 p.m., passed through Narrows bridge with a strong westerly breeze. 6 p.m., come to anchor at eastern entrance of St. Peter's channel, very stormy. 17th, working to windward again. This has been a case of working to windward from Point Aconi to St. Peter's canal, which place we passed through at noon and reached Port Hawkesbury that night, where you left us at noon on the 18th. That same afternoon we made sail and stood southward, arriving at Canso, and took up our usual patrol work, looking after everything in connection with the protection of our fisheries. July 28, the launch *Davies* arrived, assisting in carrying out our duties, particularly the lobster regulations in the close season, for which purpose we have found her to render very great assistance.

On the 7th of August while at Isaac's harbour, I received orders from you to proceed to Charlottetown, and have ship's company measured for uniform suits. Morning of 8th went to sea, noon sent boat ashore at Canso for mails while the ship reached in the offing, at 1.30 p.m. Boat returned, we then bore up for Strait of Canso, 6 p.m. off Cape George, and at 6 a.m. on the 9th at Charlottetown. Eight a.m. dressed ship in honour of the coronation of Edward VII., our beloved King, and at 12 o'clock, noon, to show a further appreciation of the event, we fired a royal salute of 21 guns. On the 12th, after having crew measured, ship stored, we went to sea cruising southward, arriving at Port Hawkesbury same night, fog and rain. Next morning weather improved, proceeded and arrived at Canso on that day. The *Davies* joined us again and on the 14th went to sea cruising westward, launch in charge of chief officer, going along the shore among the islands and runs in search of traps. On the 21st of October, the first fall U. S. seiner arrived at Liscombe bound for east coast of Cape Breton. He reported nine other seiners leaving with him. Had not seen any mackerel. On the 27th, we met the steam seiner *Alice M. Jacobs* standing into Beaver Harbour. A strong S. W. breeze was blowing with a heavy sea. The weather has been very changeable and bad during the greater part of this month. On the 1st of November, I received your order to place the *Osprey* into her winter quarters at Shelburne on the 20th instant. I continued our patrol work with both *Osprey* and launch *Davies* all along the coast, leaving *Davies* at Marine and Fisheries dock, Halifax. Proceeding westward on the 16th, we arrived at Shelburne on the 17th, went into winter quarters on the 18th, and on the 19th paid out of commission. The season has been uneventful, everything going smoothly.

I have the honour to be, sir,

Your obedient servant,

C. T. KNOWLTON,  
Commanding Cruiser *Osprey*.

GOVERNMENT CRUISER 'KINGFISHER'.

SHELburne, N. S., December 5, 1902.

Captain O. G. V. SPAIN,  
Commanding Fishery Protection Service,  
Ottawa.

SIR.—I beg to submit my annual report of the work of the cruiser *Kingfisher*, for the season 1902.

Acting upon your instructions, I commissioned the vessel on April 21 and, after fitting out, sailed on the 24th from Shelburne, cruising eastward, up through the Gut of Canso and reached the Magdalene islands, where I anchored on April 27, having encountered a little boisterous weather. American and French fishermen in quest of bait were boarded by us.

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May 14, left the Magdalene islands, cruised towards Sydney, where we anchored on the 5th, boarded several American and French trawlers taking in herring for bait. On May 7, on information given by the collector of customs, Sydney, I ordered a watch to be put on the American trawler, *Blanche*, but the information having been proved in error, further proceedings were found unnecessary and, by your order, the vessel was released. May 9, left Sydney and cruised west coast of Nova Scotia touching at various ports and making Lunenburg, where we arrived on the 17th, headquarters. May 19, the advance guard of the American fleet of seiners arrived and anchored at Mosher's island, and on May 24 many seiners were seen passing at a distance, bound eastward. On that day we left Lunenburg, cruising eastward, calling at several ports, and on the 30th arrived at Souris, P.E.I., taking up our station there, until further orders. On June 9th first officer L. A. Demers left the ship to join cruiser *Acadia*. Second officer continued acting in his place. On July 6 reached Pictou, hauled vessel over on slip where full repairs and painting was done. Finished work on the 11th of July and sailed from Pictou on the 12th, taking up station at Souris. Found on the way across the straits, that the vessel was leaking badly. Means were taken to discover leak, but to no effect, therefore, acting upon your instructions, returned to Pictou July 21, and hauled over on the slip again on the 23rd. The leak having been found and stopped, the ship was launched on the 24th and sailed that date for Georgetown. August 10, returned to Pictou and ship's company were measured for uniforms. August 13, left Pictou, cruising to the southward, calling at Hawkesbury and Arichat and going through the lakes called at Baddeck, and reached North Sydney on August 15. On the 20th left Sydney cruising along the west coast of Cape Breton through the Gut of Canso and reached Souris on the 22nd, taking up our station.

The catch of mackerel was small in Prince Edward Island, only two seiners visited my station this season, remaining a short time. The catch of mackerel at Magdalene islands was very good, some 10,000 barrels being secured.

August 30, went to Pictou and took control of steam launch officially known as *No. 1*. Left Pictou September 5, reached Georgetown same day. Every day when weather admitted launch was sent out searching for illegal lobster fishing. September 16, off Grand river, traps were destroyed, and on same day at Boughten island, traps were destroyed. September 18, traps were destroyed off Graham Point, and on the 23rd, ten were destroyed off Rollo bay, and I made a seizure of eight cases of lobster at Northside on information received by the local fishery officer. September 11, steam launch destroyed two hundred traps off New Port. October 2, steam launch, in charge of second officer, left for Pictou and continued searching the bays from Pictou to Pugwash for lobster traps. October 15, one hundred and fifteen traps were destroyed off Birch Point by the crew of the steam launch. October 17, we sailed from Souris to Hawkesbury, where steam launch joined us on the 18th. October 20, sailed from Hawkesbury, going through Bras d'Or lakes. While going through, the second officer fell on the deck and broke a small bone of right ankle. Reached North Sydney on October 24; found thirteen American seiners in port, which we boarded. November 4, first officer Demers rejoined vessel and second officer left. By October 11 all the American seiners had sailed for home, their catch was small, the highest vessel had 90 barrels. We followed immediately on their departure, calling at Louisbourg, Arichat, Canso, Liscombe and Halifax, and finally at Shelburne, where I proceeded to dismantle the ship for the winter and paid crew off on November 30.

I may remark that, though my cruising station on Prince Edward Island covers a large area, I find that with the exception of the few traps destroyed, the fishing community complies with the existing laws, and we found them willing to assist us with information to prevent the violation of the laws by others. It gives me great pleasure to state that my crew have aided me greatly by their diligence and implicit obedience in carrying out the season's work.

The steam tender *No. 1* has proved a great advantage in carrying out more fully the duties of patrolling. It is my humble opinion that everything has been done that can be done towards effectually preventing any contravention of the lobster fishing laws. With your permission I would suggest that, if *No. 1* was finished exactly as the *Lucy Clive*, it would prove a safer boat in case of being suddenly caught in a strong

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breeze. The boat would also be more comfortable, especially towards the fall, when the days get colder. Throughout the whole season the weather has been most variable and very often so stormy, as to prevent me from doing any distant cruising.

All the above respectfully submitted.

I am, sir,

Your obedient servant,

W. H. KENT,

Commanding Cruiser 'Kingfisher.'

#### ANNUAL REPORT OF THE CRUISER 'PETREL' FOR 1902.

CAPT. O. G. V. SPAIN,

Commanding Fisheries Protection Service of Canada,  
Ottawa.

SIR,—I have the honour to report as follows on the work performed by the *Petrel* during the past season. The ship, which was laid up at Walkerville, and was fitted out by April 15, but on account of deficiency of crew she was not placed in commission until the afternoon of May 3, when a departure was made for Amherstburg, where coaled that evening. On Monday the 5th, departed for the fishing grounds and established the regular patrol of them. On the 12th I placed Bar Point gas buoy and located wreck of schooner *Mt. Blanc*. 14th, placed spar buoy to mark wreck and also one on Grecian shoal. Same day placed gas buoy on Grubb Reef. 15th, I placed three spar buoys on Middle Ground to indicate the extent of the shoalest part of it. 24th, was ordered to Windsor to celebrate Victoria Day. Dressed ship and fired a royal salute of twenty-one guns. Afterwards crossed over the river to Fort Wayne and took on board a number of American officers and their ladies, who, with a company of their men, assisted to celebrate the day at Windsor. June 2nd, placed spar buoy on North Harbour Reef. Same day I seized one hundred and sixty-three American gill-nets set in our waters east of Pelee Island. 17th, I placed a spar buoy at the wreck of the *Specular*. 27th, I seized twenty-four whitefish gill-nets off Long Point. July 11, I seized fifty-nine whitefish gill-nets off Long Point. 22nd, I seized one hundred and thirteen American gill-nets (whitefish) set in our waters off Long Point. 31st, took sextant angles to locate wreck of steam barge *Dunbar*, and took soundings. August 9, dressed ship and fired a royal salute of twenty-one guns. In the afternoon by instructions took on board Sir John and Lady Carling and party. 13th, I seized eleven whitefish gill-nets off Long Point obtained by grappling. 25th, I seized one hundred and eleven gill nets also off long Point. 27th, I went to the wreck of the steamer *City of Venice*, cleared away wreckage and afterwards pulled out mast leaving no obstruction to navigation. September 2, I seized twenty-two herring gill-nets set in our waters off Long Point. Again on the 3rd I seized near the same place forty-one gill nets. 9th, I replaced Bar Point gas buoy, which had been broken from its moorings by some passing vessel. Capt Geo. P. McKay, of Cleveland, was on board, whom I conveyed to Pelee Passage Light Ship and afterwards landed him at Cleveland. 17th, I seized forty-six herring gill-nets and twenty-six whitefish gill-nets, seventy-two all told; again on the 18th I seized a gasoline fishing tug with sixty-five gill-nets on board and a quantity of fish. 22nd, located wreck of steamer *Stephens* which I reported to the Deputy Minister. 27th, I seized eighty-five gill-nets off Long Point. 29th, I seized thirty-two gill-nets. I sighted two tugs fishing in our waters about ten miles east of Long Point. They let go their nets and ran over the line. We got twenty-two nets belonging to one tug and ten of the others. On the 13th I seized thirteen gill-nets off Long Point. October 3, worked for four hours and forty minutes pulling out main mast, booms, gaffs, &c., of the wreck of the schooner *Barr*, leaving the mizzen and four masts to be blown out. The 11th, I seized nine gill-nets also off Long Point. 17th, departed from Kingsville conveying Col. Anderson to Pelee Island to see Mr. Noble and to inspect the Middle Ground lighthouse, returning to Kingsville same day. 18th,

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replaced Grubb Reef gas buoy which had broken from its moorings and had been towed into Kingsville. 31st, could not find wreck of schooner *Barr*, but found her foretop mast floating heel end up with a lot of wire rigging attached, which, trailing on the bottom, prevented its getting out of the track of vessels. Cut rigging adrift and let spar go. Could find nothing more of the wreck. November 4, I seized six gill-nets. 7th, worked all forenoon trying to move wreck of the *Lulu Beatrice*, breaking the tow line several times; the wreck being full of mud and sand could not move it. 8th, blew up wreck with dynamite. 9th, I seized sixteen herring gill-nets off Long Point. 10th, by your orders fired a royal salute of twenty-one guns. 13th, I took up the spar buoy which marks the location of the southeast light ship and placed another in its stead. 14th, I seized fifty-five herring gill-nets east of Pelee Island. 18th, by instructions from the Deputy Minister, I took Judge Horn and party to Pelee Island to hold a Court of Revision and returned to Windsor same day with him. On the 19th I seized forty-one whitefish gill-nets set in our waters near the Hens and Chickens. On the 20th I seized sixty herring gill-nets set in our waters about ten miles east of Pelee Island. On the 21st I took up the three spar buoys from the Middle Ground and Pelee Passage and one from North Harbour Reef. 24th, at the request of Mr. Barrett, collector of customs, I took the chief constable of Amherstburg on board and intercepted the American steamer *D. C. Whitney*, which was seized for the sheriff of the county of Essex. 25th, took up spar buoy from Grecian Shoal. 27th, took up the Grubb Reef gas buoy and towed it to Amherstburg, placing it in charge of Hackett Bros. 30th, the keeper of the Detroit river light sent in word to me that the Bar Point gas buoy was not burning. I went out to it and found that the gas was expended which I reported to the Deputy Minister by wire. December the 4th The ship and ship's company were inspected by you. 5th, I took in spar buoy from wreck of schooner *Mt. Blanc* and also the gas buoy from Barr Point and delivered them to Hackett Bros. On the same day they departed for Owen Sound to place ship on dry dock to make repairs to engine, &c., but on account of gales and severe weather did not reach there until the night of the 12th.

*Remarks.*

You will observe that a larger number of nets were seized by me than in any season since 1895, namely, nine hundred and ninety-eight, and also a small fishing tug. The American fishermen were never so persistent in their poaching as they have been the past season and there is no doubt they have a well organized system of signals and also use the telegraph and telephone wires extensively. I am informed they have paid agent on some of the line boats to let them know when and where they saw the *Petrel* and also in some of our own ports; and when I inform you that ninety-seven tugs were registered and fished out of the port of Erie alone, many of them as speedy, or nearly so, as the *Petrel* she being very conspicuous and not as speedy as I could wish, makes the protection of the fisheries of Lake Erie a very difficult task to perform and can only be practically successful. However, I did my best, as the result I think, will show. I also did considerable work for the marine branch of the department at wrecks, buoys, &c.

I inspected but few of the lighthouses the past season, my time and attention being fully occupied as indicated above.

The fishing in Lake Erie was generally light and I think that unless some arrangement can be made with the various states bordering on the lakes to have uniform laws and regulations to be strictly enforced, the time is not far distant when the fisheries will not be worth protecting. Most of the American tugs have steam lifters which suit. will take in the nets three times as fast as by hand. Some Canadian tugs are following. They are now literally taking the fish out of the water by steam.

The *Petrel* logged during the season 13,647 miles.

I have the honour to be, sir,  
Your obedient servant,

E. DUNN,  
Com'g. *D.G.O. Petrel*.

## CRUISER 'CURLEW.'

ST. JOHN, N. B., December 31st, 1902.

Commander O. G. V. SPAIN,  
Commanding Fisheries Protection Service,  
Ottawa.

SIR,—I have the honour to again submit to you my annual report on the work performed by this ship during the year just closing, in the performance of which we have been brought in touch with the various fisheries and officers along the seaboard, from the borders of the United States to the province of Quebec, calling at the numerous ports between.

During the period spent in winter-quarters in St. John our boilers and engines were put in thorough repair, the bridge lowered to the level of the forward house, and all necessary alterations made to the hull and boats.

During our year's cruising we had every facility of inspecting the many lucrative fisheries placed in our hands by a wise Providence, and while many intelligent persons seemed apprehensive that our various fisheries will be ruined if this or the other action is not carried out without delay, still, I have the pleasure to report that our fisheries are giving as good results as in years gone by, with the exception of the mackerel and lobster fisheries. Many scientists inform us in a reassuring manner, and prove to their satisfaction, (if not to ours) that the resources of the sea are inexhaustible, but notwithstanding all this, it seems to be the wisest plan not to force our marine resources too far, but to provide and enforce the legislation that may be deemed necessary under the various circumstances governing the several fisheries.

It is an unpleasant fact that we are now compelled to face, the lessening schools of mackerel as the years roll by. Where only a few years ago between sixty and seventy natty looking United States seining schooners could be seen gaily cruising along the shores of Nova Scotia and Cape Breton, making fairly good catches to recompense them for their venture, not more than half that number of vessels now visit our coasts. One reason for the decrease in the number of those foreign seining vessels can be attributed to the very good hauls made on the United States mackerel grounds, more especially in the spring fishing in southern waters.

The catch of mackerel by our local fishermen is somewhat less than that of the previous year of 1901, but the prices ruled considerably higher. The Cape Breton mackerel fishermen made the best hauls this season for the maritime provinces and exceeded any of their catches for the past fifteen years. This was very consoling to those who are interested, and who felt that mackerel would never again trim the shores so closely.

The lobster industry is forcing itself more and more to our attention as the seasons come and go, on account of the gradual decline of this fishery, and restrictive measures are imperative all along our coast line. The raising of the size limit is the most advisable measure to be adopted, but this would interfere with the operation of the canneries whose interests should be taken into consideration. The establishing of hatcheries (as a means to preserve and increase our lobsters), at favourable points on our coasts, would no doubt greatly improve this declining industry, and would be a way of preserving it for future generations.

Having destroyed their lobster fishery by indiscriminate fishing, the United States Government is now spending thousands of dollars in order to bring back this fishery to a fairly satisfactory condition.

At the beginning of April your orders were received to put the ship in commission as soon as she was ready after the 15th of the month, and on the 19th, our pennant was

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hoisted and the ship was commissioned. Our crew having joined us that morning we steamed down the bay to Grand Manan, anchoring at Flagg's cove at dark, where many hundred fishermen awaited our arrival, and that evening were made happy by the distribution of bounty cheques among those having claims that were satisfactory to the Fisheries Department.

Two days later we steamed into Whitehead, and made known to the enterprising fishermen at that place the various provisions of the new law prohibiting the slaughter of pollock by the use of charges of dynamite. They all listened attentively but were under the impression that there were 'loop holes' in the new law by which they could continue dynamiting and evade punishment.

From this time till May 6, we cruised over every part of the district distributing bounty cheques, issuing weir licenses and meeting the several fishery officers regarding the fisheries' difficulties that they had met with in the exercise of their duties. On May 6, we returned to Whitehead harbour, and after diligent inquiry found that several vessels had violated the law against dynamiting fish. We seized the United States schooners *Satellite* and *Nellie Gaskell* and also the Canadian sloop *Zelma* and found that the crews of both American vessels were Canadians, with the exception of one American citizen on each, in order that they might comply with the United States regulations.

These vessels had just got nicely to work among the pollock with their vile appliances, when we anchored in their midst and arrested them. From crevices in the cliffs, and the depths of several fish houses, those vessels crews brought forth their dynamite sticks, fuses and detonating caps and delivered them on the *Curlew*, and we then towed the vessels to St. Andrews, to await the action of the department. The fine of \$100 imposed on each vessel with the warning that in all future offences the full penalty of fines and confiscation would be imposed has had the desired effect, and this method of fishing has fortunately now ceased.

On May 22, we steamed across to Nova Scotia, in order to accompany a large fleet of United States seining schooners that were reported to be cruising for mackerel off Lunenburg. We anchored in Lockport that night, procuring information regarding that fleet. At sunrise next morning, we cruised to Lunenburg, but finding that the United States fleet went to the eastward of Halifax, we cruised as far as Cape Breton and anchored in the harbor of Arichat. On June 2, we received your telegram there to proceed immediately to the Bay of Chaleur, and meet you at Dalhousie. Getting under way at once, we were off East point at midnight, and the next night anchored below Dalhousie, conferring with you on the morning of the 4th and receiving your instructions. With the assistance of a small tug boat we went to work on the Restigouche river, finding the fishery laws almost totally ignored by the salmon fishermen. The traps were, in many cases, longer than their licenses allowed, and were set on Sundays, as on other days. The local officers displayed very little energy in the performance of their duties and were sadly deficient in their interpretation of the fisheries Act. However, after actively working on the river till June 19, we felt certain that fisheries' matters were running along quite smoothly and according to law, therefore at midnight of that date we quietly steamed away from Dalhousie and its very hospitable inhabitants intending to be in St. Andrews on coronation day, over 700 miles distant by sea.

With only a few necessary stops, St. Andrews was reached on the 24th, only to hear the disappointing news that the Coronation ceremonies had been indefinitely postponed, on account of the King's serious illness. The large celebration that had been planned by the St. Andrew's town committee, assisted by our ship's company, had, therefore, to be abandoned, much to the regret of all.

Attending to various fishing disputes kept us busy till July 14, when we ran through the St. John falls for the first time, and steamed up the river to Westfield, to investigate several complaints made of illegal fishing off the Nerepis stream. Meeting the fishermen and their officer, I directed the course for them all to pursue with reference to fishery matters in future, and since then I have heard no complaints.

On July 17, we returned to St. John, and proceeded down the bay again, and until August 15, we were very busy on the several fishing grounds, being greatly hampered in our movements by very foggy weather, but on that date we steamed across the Bay of Fundy on our way to Shelburne, where you had ordered us to assist the town committee in their commendable efforts to make their annual regatta a success. On August

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8, we arrived, and immediately took charge of the races, at the request of committee. All the races were very interesting and exciting, and were viewed by hundreds of visitors who had gathered from far and near. On the regatta being terminated on Saturday, the 9th, a hearty vote of thanks was tendered to us by the racing committee for the assistance we rendered them.

Being ordered by you to return to the Bay of Fundy, we returned there immediately, and on the 29th of the month succeeded in seizing five vessels for illegal fishing in St. Andrews bay. We towed them to St. Andrews, and reported the facts to the department. The fine of \$100 was imposed on each vessel, but in the case of three of them, on account of the owners being hardened offenders, fines of \$200 were imposed. These fines were promptly paid by the offenders.

Having received your orders to proceed to Halifax and receive a new steam launch being built there for this vessel by Messrs Howell; we steamed for there on September 6, calling at Bryer island, Liverpool, and other intermediate ports, previous to our arrival in Halifax. Some delay was experienced there by the launch not being quite ready, but after a thorough testing by Inspector Stevens, we took launch in tow on September 25, and steamed towards the Bay of Fundy.

Illegal fishing had re-commenced during our absence, principally among the islands and ledges around Back bay, and immediately on our arrival we took stringent measures with a view to stopping it. We confiscated numerous seines, imposed fines of \$100 each on several fishermen, and sent one of the principal offenders to jail for three months, on his refusing to pay his fine, but after an interval of fourteen days he paid his fine, with costs, and was liberated.

This illegal work having been stamped out; by your orders, we attended Campobello Fish fair on October 9, and assisted the regatta committee in starting the various races from the *Curlew*, and the entire fair and regatta were a decided success and largely attended.

On October 22 we steamed to Yarmouth to meet you, and on the 24th, conveyed you to Shelburne, where you transferred your flag to the cruiser *Acadia*, lying in port there.

Returning immediately to our cruising grounds on the New Brunswick coast, where many important matters were attended to. Rumours of illegal lobster fishing among the Tusket Islands being reported, we took the launch over there. Two officers and two men were placed on her, and her presence there prevented the illegal lobster fishing from taking place, as in former years, she being admirably suited for this purpose.

Leaving her at work there, we steamed eastward to look after reported poaching by American seining schooners off Sambro. All the ports on our way were looked into for evidence against any vessel, and at Halifax we conferred with you on this and other matters. We returned westward from there on November 15, and at Yarmouth we took the launch in tow and proceeded towards St. Andrews. Gales of wind detained us for nearly a week in Bryer island, but eventually getting the launch across the bay, we began taking the bounty claims of fishermen, and with the launch enforcing the lobster regulations against numerous law breakers who took advantage of our absence in Nova Scotia. We destroyed many hundred traps between Bliss' Harbour and Lepreau, seized two boats, and secured evidence against several persons, which will no doubt lead to their conviction and punishment.

The launch continued enforcing the lobster laws along the coast, the collection of bounties was completed on December 23, and on the evening of the 24th the ship was put out of commission here and the crew paid off.

A new berth having been secured for the ship to be used as winter quarters at the Intercolonial terminus here, which is much superior to the previous winter berths, we placed her there on the 27th, and the engineer's staff commenced repairs to the machinery. Numerous special reports on various matters have been prepared and submitted to you during the year, which I trust have met with your approval.

I have the honour to be, sir,

Your obedient servant,

JOHN H. PRATT, *Commanding Curlew.*

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## CRUISER 'CONSTANCE.

QUEBEC, January 7, 1903.

To Commander O. G. V. SPAIN,  
Fisheries Protection Service,  
Ottawa.

SIR,—I have the honour to submit to you the following, which is my annual report of the work executed by the revenue cruiser *Constance* during the past year.

January 20.—My engineers and stokers began their work of refitting out the steamer to be ready for active service at the opening of navigation.

March 24.—First Officer Caron and Second Officer McGough commenced duty.

March 25.—Crew arrived on board, when we left the Louise basin and crossed over to Davie's shipyard to ground vessel for the purpose of inspecting and painting bottom.

April 2.—Crossed from Levis to the Quebec government wharf to fill tanks with fresh water, then proceeded into the Louise basin for shelter from ice coming down the river, also to take on board coal, stores and provisions.

April 5.—Hoisted ensign and pennant, at the same time signed officers and crew in ship's book, and according to instructions had ship ready for sea that evening.

April 7.—Left port early this morning and proceeded down the river to resume our regular annual work in the customs preventive service, from which date to the 28th our cruise was along the north and south shores of the gulf, including Anticosti.

April 16.—After breaking through considerable ice, which was mostly honey-combed, we succeeded in gaining an entrance to Gaspé basin, the *Constance* having the honour of being the first arrival of the season, in the earliest opening of navigation on record.

During the month of May our cruise was off the east end of Prince Edward Island and Magdalen Islands.

June 4.—Arrived at Halifax, where Mr. Fred L. Jones, inspector of customs, joined us. We proceeded at once to the westward, cruising through Tusket islands, St. Mary's bay and about the Bay of Fundy until the 23rd, when we returned to the eastward and up the Gulf and River St. Lawrence.

June 28.—Arrived at Quebec and had deck caulked, resuming our cruise on July 2.

July 5.—According to instructions received, we left the gulf, returning to the Nova Scotia coast, arriving at Halifax on the 9th, when Mr. Jones again joined us, and accompanied us along the coast to the eastward, arriving at North Sydney, C.B., on the 13th, from which place we continued on toward Cape North, Magdalen Islands, and to Charlottetown for coal, returning to Halifax on the 20th, reaching Grand Manan and Eastport, Maine, on the 25th.

During the greater part of August and the first week of September, our cruise was about the Gulf and River St. Lawrence, including the Magdalen islands and Anticosti, and September 13 again found us in the Bay of Fundy and vicinity, where we remained cruising until the 24th, when we were ordered to return to the Gulf and River St. Lawrence, cruising for the balance of the season along the north and south shores, but for the most part of the time around Bay Chaleur. November 20 we arrived at Quebec to prepare for winter quarters, and on the 26th placed the *Constance* on Messrs. Davies' patent slip for the winter, and on the 29th paid off officers and crew from further active service.

During the past season—from our experience—we had much less fog than in former years, but this was no doubt owing to the continued strong westerly winds and gales that succeeded each other from the opening to the close of navigation. As usual



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we boarded and searched all unknown vessels, or vessels of a suspicious character, and covered in distance made, 15,592 miles.

On June 17 we seized the schooner *Nellie* at Digby, N.S., for infraction of the Customs Act, Sec. 99. Information was received on several occasions of some smuggling having been carried on at various places, some of which reports were undoubtedly true, but it must not be expected that one cruiser can watch over the vast extent of coast covering hundreds of miles in extent along the coasts of the River and Gulf of St. Lawrence, not considering the Atlantic coast of Nova Scotia, the Bay of Fundy, &c., &c. But, notwithstanding the size of the *Constance*, and her slow speed, it will be observed that she has accomplished wonders during the past years of her service, but could do much more if she was only larger to face the gales of the gulf and the Atlantic coast, faster to reach the distances we have to make, in much less time, as in many cases great speed is most urgent.

I have the honour to be, sir,  
Your obedient servant,

GEO. M. MAY.

DETAILED REPORT OF THE FISHERIES INTELLIGENCE BUREAU FOR 1902.

This bureau is also under my supervision, and the work in connection therewith has been very satisfactorily done by my clerk in Halifax, Nova Scotia, Mr. Aubrey McKerrow, whose report is herewith appended.

The bureau consists of fifty-six reporting stations, and is found of very considerable benefit by our fishermen, more especially in keeping them advised where ice and bait can be procured. These stations extend round the whole coasts of the maritime provinces, and they also keep me very well informed in reference to the movements of United States fishermen.

Respectfully submitted,

O. G. V. SPAIN,  
*Commander of the Fisheries Protection Service of Canada.*

## ANNEX B.

## DETAILED REPORT OF THE FISHERIES INTELLIGENCE BUREAU.

HALIFAX, N.S., December 31, 1902.

Commander O. G. V. SPAIN,  
Commanding Fisheries Protection Service of Canada.

SIR,—I have the honour to submit herewith my third annual report of the Fisheries Intelligence Bureau for the season ending October 15, 1902. Accompanying this report will be found various statistics as to the catch, the number of men engaged and boats employed in the fisheries.

In connection with the bureau during the season were fifty-one reporting and twenty-four bulletin stations. One new reporting station was established at St. Adelaide de Pabos, Gaspé District, Que., in charge of Miss Christina Mauger.

New reporters were appointed as follows:—St. Peter's, C. Mr. Angus J. McCuish, and at Canso, N.S., Mr. John E. Cohoon.

I regret to announce that the grim reaper death has visited the bureau and removed, in the person of the late Mrs. E. Bond, of St. Peter's, Quebec, on October 8 one of the most active, energetic and efficient reporters connected therewith, to whose relatives the Fisheries Intelligence Bureau extends deepest sympathy. The following summary received from the various stations will show the result of the fishing operations for the season of 1902.

## NOVA SCOTIA.

## List of Fisheries Bureau Reporters who are Government Officials.

Residence.	Name.	Allowance.
		\$
Arichat West, C.B.	C. B. LeLacheur	15 00
Cheticamp, C.B.	Chas. E. AuCoin	15 00
Digby, N.S.	J. M. Viets	15 00
Georgetown, P.E.I.	Charles Owen	15 00
Grand Manan, N.B.	Charles Dixon	15 00
Hawkesbury, C.B.	J. C. Bourinot	15 00
Liverpool, N.S.	J. B. Dunlop	15 00
Lockeport, N.S.	J. R. Ruggles	15 00
Louisbourg, C.B.	H. C. V. LeVatte	15 00
Mabou, C.B.	Lewis McKeen	15 00
Malpeque, P.E.I.	J. M. McNutt	15 00
Magaree, C.B.	M. A. Dunn	15 00
Musquodoboit Harbour, N.S.	George Rowlings	15 00
Petit-de-Grat, C.B.	P. T. Fougere	15 00
Port Hood, C.B.	E. D. Ternaime	15 00
Port La Tour, N.S.	J. W. Taylor	15 00
Port Mulgrave, N.S.	David Murray	15 00
Lo. East Pubnico, N.S.	J. A. D'Entremont	15 00

## List of Fisheries Bureau Reporters outside the Civil Service.

Residence.	Name.	Allowance.
		\$
Alberton, P.E.I.	David Montgomery.	15 00
Arichat, C.B.	J. T. St. Jean	15 00
Bloomfield, P.E.I.	E. E. Kelly.	15 00
Canso, N.S.	John Cohoon	11 00
Caraquet, N.B.	Mrs. E. Blanchard	15 00
D'Escousse, C.B.	John P. Cruchy	15 00
Gabarus, C.B.	James Nichol	15 00
Douglastown, P.Q.	Charles Viets	15 00
Grand River, P.Q.	Mrs. J. Carber.y.	15 00
Ingonish, C.B.	J. M. Burke	15 00
Isaac's Harbour, N.S.	Simon M. Giffin	15 00
L'Ardoise, C.B.	J. M. McIsaac	15 00
Long Point (Mingan), Que.	A. Maloney.	15 00
Lunenburg, N.S.	W. A. Qwicker.	15 00
Magdalen Islands, Que.	J. A. LeBourdais.	15 00
Meat Cove, C.B.	Alex. B. McDonald	15 00
Newport Point, Que.	Mrs. M. Meunier.	15 00
Paspébiac, Que.	Miss Ada Bock.	15 00
Percé, Que.	E. G. Tuzo.	15 00
Point St. Peter, Que.	Mrs. E. Bond.	15 00
Salmon river, N.S.	Arthur Balcom	15 00
Sand Point, N.S.	John A. R. Morrison.	15 00
Seven Islands, Que.	P. E. Vignault.	15 00
Shippegan, N.B.	Miss Marie Landry	15 00
So. West Point, Anticosti, P.Q.	Miss Z. Lemieux.	15 00
Spry Bay, N.S.	W. S. Quigley	15 00
St. Ann's, C.B.	Thomas D. Morrison	15 00
St. Peter's, C.B.	Angus J. McCuish	11 25
Whitehead, N.S.	J. E. Dillon	15 00
Yarmouth, N.S.	F. L. Hatfield.	15 00
Clark's Harbour, N.S.	J. Lewis Nickerson	15 00
Queensport, N.S.	W. P. Scott	15 00
Port Malcolm, N.S.	R. C. Proctor.	15 00
Gascons L'Anse, Que.	Mrs. A. E. Brotherton	15 00
Ste. Adelaide de Pabos, Que.	Miss Christina Mauger	15 00

Capt. Charles Lohnes acted in the capacity of reporter from May 1 to June 14, date of Mr. Cohoon's appointment, during which time he reported promptly daily and weekly one and one-half months, and is entitled to the remuneration of \$3.75, should it meet your kind consideration and approval. Residence, Canso, N.S.

## CANSO.

*Report of A. N. Whitman & Son :*

*Codfish.*—We cannot report any improvement in our inshore codfishery over the past year. It has ceased to be a very profitable business and our inshore boats are more successful in catching pollock and haddock. We have a fleet of fine boats fishing out of this port and it is being added to and improved every year, but the codfish does not contribute largely to the profit of the business. One new schooner of about sixty tons has been added to the fleet and has been reasonably successful on the outer grounds.

*Haddock.*—The haddock fishery of the past winter was a very successful one, and the supply during the year has been about as in former years. A dearth of these fish occurs during the autumn months and a supply will have to be sought in other waters if the trade is to be regularly supplied. The demand is increasing each year and will increase. The smoking of haddock, to make the toothsome 'finnan haddie,' is becoming an important industry here. Five or six firms are engaged in it, and we shall soon rival Digby in our production of these goods. One firm here puts up a very nice canned

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haddie, which is meeting with a fair demand from the dealers in canned goods, and the business bids fair to grow.

*Herring.*—The herring catch on this coast cannot be called anything but a complete failure for this year. Many of our fishermen did not catch enough to eat. We believe the conditions have not been much better anywhere along the coast.

*Lobsters.*—The lobster catch here was disappointing, due largely to rough weather during May and June. In April the catch was fair. There was nothing to indicate an unusual scarcity of the crustacean. Prices to the fishermen ruled high and the packers made no money. A considerable quantity of boiled lobsters in the shell is now shipped from here for Canadian consumption. The prices abroad weakened in the early part of the season but rallied subsequently.

*Mackerel.*—The catch of mackerel this year was even worse than last. The spring catch in this bay was a complete failure. A few kept dribbling along during the summer months, but the fall catch was again a disappointment. The high prices paid for the latter, twelve to thirteen cents each, compensated for the scarcity in part, but only in part. The size and quality were good.

*Halibut.*—A considerable quantity of halibut is landed here by the western bank fleet during the months of April, May and June. A large part of it is consumed in Canada. The surplus goes to Boston at a time of year when prices rule low there and yields but little profit to the shipper. One firm here put up a very nice quality of 'kippered' halibut this year in pound cans, and it seems destined to meet 'a long felt want.' The supply is up to the average. It is a pity that a considerable proportion of the catch is so badly handled by the fishermen as to depreciate it considerably in value and lessen their profit by a good many dollars.

*Squid.*—The supply of squid has been up to the average and at times much larger than the demand. It seems a pity that a few thousands of the millions of dollars being paid and to be paid by the government in bounties to the manufacturers of iron cannot be expended in erecting at some central point, like Canso, an up to date cold storage warehouse of sufficient capacity to supply our Canadian banking fleet in times of scarcity. It is depressing to see the weeks of fine summer weather that are lost each year by our vessels in a vain search for bait, all of which could be avoided if an adequate supply of squid could be obtained in the times of plenty, which occur almost every year. Perhaps some day private enterprise will be found equal to the task.

*Fish offal.*—The thousands of tons of fish offal thrown away every year by our fishermen should be utilized in the manufacture of fertilizers, glue and oil, and this will be done if the fish business is ever conducted throughout on strictly scientific principles. Processes for the utilization of fish waste have been so perfected that this product of our fisheries could, by a proper and possible outlay of capital, be turned into a valuable asset. The countless millions of dogfish which now infest the waters of our coast during the summer and autumn and make unprofitable the operations of our fishermen, might be turned into a valuable commodity to enrich our soil and yield at the same time a quantity of oil and glue sufficient to pay all the cost of the process. Who will be the first to step in and stop this annual waste of material which nature has so abundantly provided?

A railroad to Canso, connecting it directly with the network of railroads now covering this continent, must come if the fresh fish business is ever to be conducted in such a way as to make it thoroughly profitable to the producer and consumer. Those who are conducting the business at present are sadly handicapped by the inadequate means of transportation, and are only sustained by the hope that some day soon this much needed 'missing link' will be supplied. There is no point along our Atlantic coast which offers such inducement for the building of a short line of road for the supplying of the market that Canso does, and it must come some day soon. The consumer as well as the producer is interested in the building of such a road. The port of Grimsby, in England, alone sends about one hundred and twenty thousand tons of fresh fish over the railroads of that country each year, and with well equipped steam trawlers and adequate railroad facilities Canso might, from its advantageous position, easily become the Grimsby of Canada. One firm here alone last year shipped about two thousand tons with the very meagre equipment which then existed and which has not been materially improved upon since.

*Reporter, Mr. John E. Cohoon :*

*Cod*—The few vessels that were engaged in the codfishery the first of the season, reported codfish taken in fair quantities on May 3, and the inshore fishery was poor afterwards to the 15th, from which date to the 27th fishing was again fair. On the 5th and 9th, bankers arriving reported good fares, and those that came in port on May 31 experienced very rough weather on the fishing grounds. From June 16 to July 12, the catch varied from good to fair, and from July 14 to August 30, from fair to poor. Boats reported on June 21, that cod, haddock and pollock were plentiful on the coast, but bait scarce. The small herring that was used for bait was not sufficient to meet the demand, boats not being able to secure enough for a day's fishing, and only averaging  $1\frac{1}{2}$  qtl. per man for the week, which was good considering the conditions of things. The latter part of June some boats reported for as high as 5 qtls. of cod per man, and on July 5, seventeen vessels arrived in with poor reports of the codfishery on the banks. Crafts that arrived on July 26, and operated on the LaHave bank, reported codfish in that vicinity very plentiful. Towards the close of the season the weather was rather inclement, and from September 1 to October 15, the inshore fishery was considered a complete failure. It has been stated that the vessels would not average 1,000 qtls. this season.

*Haddock*.—Good reports of haddock were received the first week of May, and the fish were on the coast this season in catches varying from fair to poor. The catch is estimated to be much larger than that of last year.

*Halibut*.—About 60,000 halibut were landed at this port during the first week in May, by bankers; but very few catches were reported by the local fishermen.

*Herring*.—The only catch of herring reported this season, was on June 14, when 15 barrels were taken in one trap.

*Lobster*.—From May 1 to 7, lobsters were taken in fair catches, after which there was a falling off in the catch, on account of rough weather. The catch varied from good to fair to the close of the month, and on the 31st it was reported that several traps were badly broken by storms of the 26th and 28th. The first week of June was also a stormy one, and very few fish of any kind were caught. The fishermen were of the opinion that the greater part of their lobster gear had been destroyed by the gales, &c. The following week lobsters were so very scarce that a number of those engaged in this important industry hauled up their gear for the season. The last report of this fishery was on June 21, when boats were averaging about 50 pounds. The catch was below that of last year in quantity, but the advanced prices that were paid made up for the shortage in catch.

*Mackerel* in school on May 17 was the first news received concerning this fishery, from which a catch of 200 large mackerel were taken. Mackerel were again reported schooling on the 23rd, 24th and 27th of the same month. On the 23rd, a fleet of American seiners, which arrived in the harbour, reported mackerel very plentiful and in large schools from five to eight miles off shore. One trap had 400 mackerel on June 28, and on July 1, another reported for 300. During this month some good fares were made. At Fox island, on July 15, one trap had 2,300 fish, with netters doing fairly well, and on the 17th 4,000 were caught in one trap. Seven days later, on Thursday the 24th, one trap landed 11,000 mackerel, which was the only fare taken during the week. Fair quantities of mackerel were in the harbour on August 1 and 4, and traps and netters stopped about 10,000 fish. From the latter date to October 15, mackerel were taken in small quantities.

*Pollock* were first reported along the coast about June 21, when they were in good numbers. One trap reported 35 qtls. of pollock on the 28th, and at White Point Dover bay, reports came the same day that 50 qtls. per day were averaged by one trap for the week. Pollock were reported plentiful during the season, but the prices obtained were not sufficient to reward the fishermen for their labour.

*Squid* were reported in traps in July on the 7th and 23rd, when 10 and 20 barrels were taken respectively. During the week of the 7th, squid were in good quantities and twenty-five vessels baited here and vicinity. From the 14th July to August 2, the fish were scarce, and on the 4th and 5th were again in good supply. Large quantities of

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this bait fish were taken on September 22 and 23, but prices were so very low, that some of the fishermen consigned them to the deep from whence they came.

## STATEMENT of Catch of Fish for Season of 1902.

Fish.	Quintals, dry.	Pickled Green, lbs.	Fresh, lbs.	Smoked, lbs.	Canned, lbs.
Cod..	5,000	500,000	500,000		
Haddock..	1,500	20,000	2,500,000	300,000	35,000
Pollock	3,000	150,000	10,000		
Mackerel.		100,000	100,000		
Herring		95,000	75,000	60,000	
Halibut		150,000	450,000	20,000	25,000
Lobsters..			150,000		145,000
Squid			2,000,000		
Totals	9,500	1,015,000	5,785,000	380,000	205,000

P.S.—The above statement does not include lobsters packed at Dover.

## CLARK'S HARBOUR, N.S.

Reporter, Mr. J. Lewis Nickerson :

*Alewives*.—The run of alewives at this station is always scant and the fares amounted next to 'nil' this season.

*Cod*.—The inshore fishery began about the middle of May, by a few boats; the other crafts still continued in the lobster industry until the end of May. In this month good fares of codfish were secured on all the grounds, though operations were greatly hindered owing to the scarcity of bait. In June, the usual number of vessels followed up this fishing, but the swarms of dogfish, which invaded these shores told very much against successful fishing. A long spell of stormy weather was experienced after, and this, coupled to the forementioned evil, made the season's catches rather lighter than usual. The fishery was revived during the autumn months and followed quite steadily for some weeks, but the total branch showed a considerable shortage for the year. season's catch estimated at 7,000 quintals.

*Haddock* were fairly plentiful throughout the season. No special attention was given to this fishery, but haddock were always found in catches mixed with cod. Two thousand quintals were taken during the season.

*Halibut* trawling by the shore boats began about the first of June and was fairly successful for two months. The catches were all sold fresh, realizing good prices to the local cannery, which is said to be the only institution in Canada engaged in the process of "trimming" this fish. In the height of the fishing season, some boats engaging in this fishery and containing two men each, stocked as high as \$30 per day. Halibut catch estimated at 40,000 pounds.

*Herring*.—Very little was done in netting till the month of July, after which schools were abundant and continued so with slight variation until November, when herring were reported fairly plentiful in the small coves not usually frequented by this fish. During the season large quantities of herring were taken, which will be utilized for lobster bait. Six thousand barrels were reported as having been taken this season.

*Mackerel*.—The three traps formerly located here were not set this season, as previous failures in this branch of the fisheries, had discouraged this enterprise. Very few mackerel were netted during the season, and no schools were observed.

*Lobster* fishing, which had been vigorously prosecuted during the winter months, varied considerably in April and May, and on account of the fishery gradually diminishing in catches, several boats abandoned this pursuit. The total catch is considered

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about an average one. The following statement will show the output of the factories at this station during the year :—

James C. Penney.....	450 cases
A. S. Swim.....	400 “
Cape Sable Packing Company .....	700 “
M. G. Nickerson & Co. ....	500 “
F. T. Nickerson & Co.....	475 “

Number of cases of halibut canned :—

A. S. Swim .....	400 cases
Cape Sable Packing Company .....	425 “

The number of live lobsters shipped to the Boston and New York markets during the season was 8,451 crates, and the value of boats engaged in the fisheries at this station was \$20,000.

*Pollock*.—One thousand quintals were taken during the season.

#### ISAAC'S HARBOUR, N. S.

*Reporter Capt. Simon M. Giffin :*

*Cod* Were only on the coast in May, in light quantities, and were first reported on June 2, when a few were observed. Fair hauls were made on the 8th and 14th of July and for remainder of the season the catches were on an average fair.

*Halibut* appeared about June 27, but the first fair reports were received on July 8 and 14.

*Haddock*.—A few haddock were reported on August 16.

*Herring* were first reported when off shore on July 9, and on the 14th an average of 100 herring were taken per fleet-net.

*Lobsters*.—Fair catches of lobsters were taken on May 1, which became a trifle better on the 5th, after which the fishery varied from fair to poor to the close of the season owing to rough weather.

*Mackerel*.—5 barrels to a fleet-net on May 22, was the first report received about this fish, which fishing was fair the following days of the 23rd, 24th and 26th. They were also reported schooling in this harbour on the 23rd. Very light catches were taken during the remainder of the season to October 9, when mackerel were reported plentiful and also schooling on the same day as well as on the 11th.

*Salmon and Trout* were reported during May, June and July.

*Squid* bait was used in the month of September, and ice was obtainable here and at Drumhead throughout the entire season.

#### LOCKEPORT, N. S.

*Reporter, Mr. J. R. Ruggles :*

*Cod* were first reported when on the coast in light quantities on the 8th and 9th of May, after which the fishery showed an advancing tendency, with good numbers of cod on the grounds for the balance of the month, and best boat reporting on the 12th, for 75 qtls., 2 weeks fishing off-shore. On the 19th, 40 qtls. was the best catch taken and 3 crafts on the 26th, arrived in with 31, 50 and 70 qtls. each. Good fishing was reported in June to the 9th and the result of two weeks' fishing off-shore was 100 qtls. by one vessel, with 25 qtls by another on the 7th and on the 9th a haul of 26 tubs was made by one shallow on the grounds. The fishing slackened for a few days until the 16th and 20th, when fair reports were received, with boats reporting 40 to 45 qtls. Codfish struck in plentiful on the 23rd and 24th and the highest fare reported was 63 qtls. The weather becoming unfavourable the following week, the codfishery was poor. The

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*Julian H. Archer* sailed in port on the 24th, with 900 qtls. and on the 28th the *Schrs. T. C. Lockwood* and *Souvenir* arrived with 900 and 300 respectively, 650 qtls. was the *Maud Churchill's* fare on the 30th. In July on the 2nd the banker *Ida M. Clarke* reported for 800 qtls. and on the same date codfish were plenty as well as on the 7th, 8th and 9th, with best boat reporting 125 qtls. From the 11th to 16th, cod were plenty off-shore but bait was very scarce. The latter commodity, however being in good supply on the 21st, the catches were correspondingly so and shallops were averaging off-shore, where cod were reported in large numbers, from 36 to 140 qtls. Good hauls were taken daily on the 29th, 30th and 31st and crafts out for one fortnight obtained 136 qtls. The August catch was good and regular and cod plentiful was reported each day throughout the month and in September to the 21st with boats reporting 35, 84 and 100 qtls. on the 1st, 4th and 16th of the former month, and the *T. C. Lockwood*, 1,300 qtls., *Ida M. Clarke* 1,000 qtls. and *Maud Churchill* 800 qtls. reported on the 8th and *J. H. Archer* 1,000 qtls., on Sept. 9. Cod were reported in very large quantities off-shore on the 27th, afterwards becoming scarce to the close of the season. The season's catch falls short of last year's by about 155,858 lbs. and only 21 barrels or 756 gallons of cod oil were extracted during the season, which is below that of 1901 by 2,088 gallons.

*Haddock* were only reported in Sept. on the 5th, when in good quantities and the total catch for the season is 12,421 pounds or 27,618 pounds less than last season.

*Hake*.—This branch of the fisheries was not reported this season, but the hake fishery was 1,388 pounds below that of 1901, the catch being estimated at 18,631 pounds.

*Halibut* were reported in May on the 19th, when good numbers were on the coast and 26 were taken by one shallop; and on June 2, it was reported that crafts prosecuting this fishery for the past two weeks made a haul of 15 halibut. This fish was scarce after until September 5, when good quantities were reported. The catch for this season, 8,000 pounds, is considered in advance of any season, since that of 1895, when 14,000 pounds represented the total catch.

*Herring* were reported on August 20 and 21, when a few herring struck in in the harbour, and on the 26th and 27th light stops were made. Small quantities were still on the coast in September on the 9th and 12th and it was reported on December 10 that the fishing season was practically over, although a few herrings were being caught. Total catch estimated at 2,100 barrels over, or 42 per cent of last year's.

*Lobster* fishing was reported fair in May from the 3rd to the 11th, after which the fishing improved and the daily reports were good to the 26th, from which date to the remainder of the season, lobsters were taken in catches varying from fair to poor.

Number of lobsters taken live for export.....	135,000
" " canned.....	53,760 lbs.

This season's exportation of lobsters was 40,000 larger than last year's, but the quantity canned was 2,352 lbs. smaller.

*Mackerel* were very scarce at this station during the past season and were only reported when a few were in the harbour on September 27 and October 7, 8 and 9. About 35 barrels were stopped, which is 15 barrels higher than last year.

*Clams and Squid*.—809 barrels of clams were taken this season, against 1,214 barrels last season, and squid were reported in fair quantities on August 26 and 27.



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## RETURN Showing the Catch of Fish and Boats engaged in the Fisheries at Lockeport Station for 1902.

Name of Vessel.	Number of Pounds Caught.	Barrels of Oil.
Julian H. Archer.....	323,000	14
Maud Churchill.....	385,000	2
T. C. Lockwood.....	374,000	
Ida M. Clarke.....	410,000	5
Grace D. Day.....	172,000	
Fleetwing.....	48,250	
Altara.....	100,000	
Muriel.....	83,000	
Nan F. Churchill.....	170,000	
Charlie Richardson.....	85,000	
Katie.....	34,000	
Boats from Port L'Hébert to Blue Island.....	2,184,250	21
	300,000	or gals 756
	2,484,250	gals. 777
Proportion of cod.....	2,450,714	
“ haddock.....	12,421	
“ hake.....	18,631	
“ pollock.....	2,484	
Total.....	2,484,250	

## LUNENBURG, N.S.

Reporter, Mr. W. A. Zwicker :

*Codfish* were first reported plenty on Shore Soundings on May 2nd, and from now to the 26th, good catches were taken ; and to the 30th, the fishing was poor owing to rough weather along the sea coast. Codfishing was very good on the south side of Sable Island, with bankers reporting good fares on May 22, and from the 31st to June 3, good catches were reported, which continued the same to the 21st, and fair from the 24th to 28th. In July the fishing was fair almost daily from the 4th to 16th and from the 28th to 31st. The August catch was also on an average fair as well as the first two weeks of September, when conditions improved and good hauls were made to October 3. The banker *Gladys B. Smith* from Grand Bank with 220 quintals, arrived in on August 19th. From the 4th to 15th of October the cod fishery was poor as the weather was unfavourable to fishing. The Shore cod fishery this season is considered an average one. The Lunenburg banking fleet during the past season consisted of seventy-seven vessels, and the total catch was 21,705,000 or about 5,000,000 pounds less than the preceding year. The value of the fares estimated at  $3\frac{1}{2}$  cents (market value) per pound is \$705,412. The La Have banking fleet consisted of sixty-two vessels, and the fares aggregated 18,800,000 pounds valued at \$611,000. The Mahone Bay banking fleet consisted of twenty-five vessels, but the fares did not average up quite so well, and the quantity stocked was 6,610,000 pounds, valued \$214,825. The total catch of the Lunenburg, La Have and Mahone Bay bankers for 1902 amounted to 47,115,000 pounds, representing a value of \$1,531,237. Very little of this fish has yet been disposed of as the price ruling at Halifax—\$3.25 ex-vessel is considered low, and the Porto Rico Market to which much of this cure is usually shipped direct, so far this season, has not offered much inducement.

*Haddock* fishery was an average this season, and good catches were reported from June 11 to 28, and fair for the remainder of the season.

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*Herring*.—The first stop of herring was made on May 10, when one boat reported two barrels. The weather was stormy afterwards, and nothing was done until the 11th and 12th of June when good catches were reported, with fair catches on June 13 and 14. There was a scarcity of herring to the close of the month, as dogfish were on the coast and were very troublesome as well as being a hindrance to the fishermen. About sixty barrels of herring were taken in nets from the 4th to 7th July, and it was reported that there was no summer run of herring this season. Seventy-five barrels of autumn herring were caught in October, and 700 barrels will represent the total catch for the season, which is considered the poorest for years, and it is becoming evident that herring will not remain on our shores on account of the numerous schools of dogfish, which visit the grounds every year.

*Lobster* fishing commenced December 15, and the catches were good until July 31. From that to middle of March the fishery was poor, with fair reports from the 16th of March to April 20. The fishing showed an improvement until the 24th of June, when bad weather caused poor catches to the end of the season. The total catch was a good average. The largest lobsters caught previous to April 30 were exported alive to the United States and after that date both large and small were sold for canning purposes. Many preparations have been made for prosecution of the lobster fishing this season on account of the anticipated high prices on the American market.

*Mackerel*.—The first mackerel taken was on the 17th of May when a catch of eight was made by a boat. The American seiner *Priscilla Smith* was in port the same day, and several others of same nationality were reported off the coast. On the 19th, 20th and 21st, boats were averaging 50, 40 and 50 mackerel respectively and on the 20th mackerel were reported schooling off Cross Island. From the 21st to 26th, only a few dozen were taken each morning, and to the 10th of June the weather was so rough that boats did not venture forth. Boats averaged 50 mackerel on June 11, and from the 17th to 28th a dozen or more were taken. In July on the 11th a catch, of 80 medium mackerel was made, and one trap on the 30th reported for 150 fish, with 800 barrels being taken in traps in August from the 9th to 23rd. From October 4 to 23rd to November 7, it was reported that 100 barrels were netted. The total catch this season is about 1,000 barrels below the average. Rough weather in May and June and the troublesome dogfish caused the falling off in the catch of mackerel on this shore.

*Squid* were first reported when 15 barrels were taken on May 7, and on the following day 10 barrels, with squid reported plenty at Ashpatogan and Chester; and on the 22nd, good catches were taken at Deep Cove and Blandford. At Roseway on July 31, the traps were reported full of squid and to the 22nd of November, good catches were taken about two miles outside of Cross Island. The bankers reported a fair supply of squid on the Banks from July 1 to the close of the season.

*Dogfish* were reported on our shores on June 10, and this pest remained until November 1, a hindrance to the successful operation of the fisheries. They were also reported by the bankers on the Western, Middle, Quero, Bradley and Grand Banks, this being the first year fishermen found them on the Grand Banks. It has been suggested that the government should offer a bonus for the destruction of the dogfish, if they are not soon checked the fisheries will be ruined. As dogfish are of little value fishermen cannot be expected to spend much time in taking them unless they received some reward. Municipal authorities pay for the destruction of certain wild animals, and it is felt that the value of the fisheries is such that the administration might well adopt some method to prevent the increase of dogfish and the consequent depletion of our food fishes on which they prey.

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Subjoined is a list of the vessels engaged in the bank fisheries in 1891, together with the fares taken by each:—

## LUNENBURG BANKING FLEET.

	Lbs.		Lbs.
St. Clair.....	140,000	Albatross.....	85,000
Maggie E. Z.....	220,000	Jennie May.....	225,000
Gladys B. Smith.....	640,000	Wisteria.....	240,000
Maravilla.....	320,000	Werra.....	180,000
Aquadilla.....	600,000	Clarence Smith.....	330,000
Huron.....	340,000	Viking.....	380,000
Basil M. Geldert.....	380,000	J. A. Silver.....	320,000
Demering.....	380,000	Albertha.....	140,000
Harry Lewis.....	390,000	De'ender.....	360,000
Robert F. Mason.....	145,000	Yosemite.....	360,000
Dove.....	180,000	Shamrock.....	440,000
Torata.....	240,000	Stratheona.....	300,000
Tyler.....	160,000	Vendetta.....	380,000
Muriel.....	170,000	Kuvera.....	360,000
Alcae.....	380,000	Renown.....	160,000
Harry Smith.....	160,000	St. Helena.....	340,000
Lila D. Young.....	420,000	Lila B. Hirtle.....	380,000
Hilda C. Corkum.....	300,000	Excelda.....	340,000
Palatia.....	380,000	Luetta.....	350,000
Alexa.....	320,000	Ahava.....	400,000
Alameda.....	340,000	Palmetta.....	240,000
Peerless.....	330,000	Azalea.....	260,000
Transvaal.....	350,000	Juanita.....	240,000
Kandahar.....	270,000	Colonia.....	370,000
Mascot.....	300,000	Milo.....	380,000
Coronation.....	360,000	Lena F. Oxner.....	420,000
Alhambra.....	360,000	Hazel L. K.....	290,000
Olympia.....	400,000	Atlanta.....	360,000
Ellen L. Maxner.....	310,000	Arcana.....	160,000
Mizpah.....	240,000	Baden Powell.....	300,000
Minnie J. Hechman.....	240,000	Maggie M. W.....	240,000
Arabia.....	140,000	Brittannia.....	240,000
Glenwood.....	320,000	Tasmania.....	340,000
Minnie M. Cook.....	380,000	Frances Willard.....	240,000
Columbia.....	390,000		
Roma.....	400,000	Total.....	21,735,000
L. C. Zwicker.....	160,000		

## (TRAWLERS.) LAHAVE BANKING FLEET. (NORTH BAY FLEET.)

Iona.....	480,000	Willie C.....	240,000
Stanley.....	240,000	Blake.....	440,000
Linus A. Wolff.....	400,000	Vesta Pearl.....	80,000
Melba.....	120,000	G. S. Troop.....	250,000
Millie Mace.....	330,000	Lucania.....	500,000
Pilgrim.....	200,000	Fern.....	270,000
Merl M. Parks.....	340,000	Ungara.....	320,000
Athlon.....	420,000	Hugh John.....	400,000
Riviera.....	240,000	Ophir.....	250,000
H. H. Kitchener.....	420,000	Victoria.....	260,000
Harold J. Parks.....	300,000	Ethel.....	270,000
Premier.....	500,000	Mariner.....	300,000
Earl V.S.....	400,000	Alice Gerhardt.....	300,000
Avis.....	220,000	Uraguay.....	420,000
Reliance.....	340,000	Maderia.....	360,000
Carlraine.....	370,000	Ivy.....	40,000
Scintilla.....	290,000	Mindora.....	320,000
May Myree.....	400,000	Flora W. Sperry.....	340,000
Carl E. Richard.....	410,000	Emulator.....	440,000
Glyndon.....	240,000	Jennie Myrtle.....	260,000
Calavera.....	220,000	Pacific.....	250,000
Majestic.....	460,000	Dottie.....	210,000
Companion.....	280,000	Yukon.....	340,000
Corean.....	200,000	Perfect.....	140,000
Concord.....	210,000	Latooka.....	420,000
New Era.....	400,000	Moran.....	80,000
Tidal Wave.....	240,000	D. M. Owen.....	180,000
Elena.....	190,000	Mauna Loa.....	260,000
Nimrod.....	306,000	Cyril.....	220,000
Collector.....	310,000	Annie N. W.....	400,000
Karnoe.....	370,000	Barcelona.....	400,000

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## MAHONE BAY BANKING FLEET.

	Lbs.		Lbs.
Unique.....	370,000	Kimberly.....	320,000
Hattie, L.M.....	340,000	Snow Queen.....	130,000
Mildred.....	140,000	Elva M.....	240,000
Flo F. Mader.....	220,000	Noble H.....	140,000
W. S. Wynot.....	280,000	Clara.....	340,000
Fredonia.....	240,000	Australia.....	200,000
Saratoga.....	380,000	Loyal.....	300,000
J. W. Mills.....	370,000	Vernie May.....	320,000
Harold.....	200,000	Blanch A. Colp.....	370,000
Deeta M.....	250,000	Crofton McLeod.....	240,000
Ronoake.....	280,000	C. U. Mader.....	220,000
Hazel B. Mosher.....	220,000	Iona W.....	160,000
Clarence B.....	340,000		

## MUSQUODOBOIT, N. S.

*Reporter, Mr. George Rowlings :*

*Alewives.*—Appeared on the coast this season about the usual time but in larger quantities than formerly. Quite a large catch was reported at Cow Bay, and during the season, those who prosecuted this fishing made stops as high as 80 barrels each, and at several rivers along this part of the coast, alewives were more plentiful than last year.

*Cod.*—This fishery is not operated to any extent in this locality until after the lobsters fishing shall have declined, and there are only a few who catch cod and engage in the net-fishing from the early spring. This season it was about the 3rd of June when codfish appeared on the coast and to the 24th, when rough weather set in, the fishery was reported fairly good. In July, cod and haddock were good to the 10th, and after this fair to Oct. 1, when the weather permitted, but the fish kept wide off-shore. Rough and windy weather interfered greatly with the fisheries during the month of October. The catch of cod this season is nearly on a par with that of last year and the same number of vessels (with a little more tonnage) engaged in the fishing as last season. Their catch was nearly all taken in the North Bay district. At Chezzetcook (West), there are being constructed for this industry 2 vessels of about 65 tons each, which will fill a long felt want, as Mr. Rowlings says:—‘One reason, our shore fishermen are not more successful in the cod, haddock and pollock fisheries is that they have only small crafts to operate this industry, and as a result cannot go off-shore far enough, where fish were reported in good numbers, this season.’

*Halibut.*—Catches during the season, were almost the same as that of cod. The fishing was said to be at its best the first two weeks in July and a larger quantity was on the coast than last year.

*Hake.*—Are always reported scarce along these shores, and this season's catch will only average  $3\frac{1}{2}$  quintals.

*Haddock.*—Were in very good supply this summer; there being about 747 lbs. taken in excess of last season. Halibut were most plentiful in Sept. and Oct., and on the 17th of Sept. it was reported that during the past week, quite a number of halibut had been taken on the coast from Jeddore to Clam Harbour, with some boats reporting as large a catch as 1,700 pounds. The total catch is 7,477 lbs. in advance of last season's.

*Herring.*—Were very scarce in this locality, this season, and during the first two weeks in July, a few fish of good quality were taken. A light fare was also made in June and to the close of the season, the quantity taken was not sufficient for bait. Total number of barrels stocked for the season was 719 or 654 brls. less than last year and of the quantity caught during the season some 120 brls., comprised herring of small size about 5 and 6 inches long, which were utilized for lobster bait, and were taken at Clam Harbour.

*Lobster.*—Fishing began in this district about the 10th of April and from that date to last week in May, as the result of fine weather the fishing was fairly good. From the latter part of May, to the end of the season, bad weather was experienced and many

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of the traps totally destroyed. Owing to the loss of gear and the unsettled state of the weather, the lobster factories did very little in June. This season's catch would have been largely increased had the weather been favourable, with a larger catch than last year, which shows that lobster are holding their own, notwithstanding reports to the contrary. Considering the weather conditions throughout the season, the catch is an average one. A large business was done here this season, in the shipping of live lobsters to Boston; more were exported in shell during the year than last.

*Salmon.*—Catches during the season were somewhat irregular but the catch on the whole was considered an average one.

*Trout.*—Were in fair quantities on May 23, and were not nearly as plentiful as last season.

*Dogfish.*—Were plentiful and of great annoyance to the fishermen, during the entire season.

The following is a summary of the catch in this district from Dartmouth, N.S.

#### Summary.

Alewives.....	367	brls.
Cod.....	8,417	cwt.
“ and haddock.....	83,925	lbs., fresh.
Haddock.....	781	cwt., dried.
Hake.....	3½	“
Halibut.....	30,432	lbs.
Herring.....	719	brls., salted.
“.....	10,800	lbs., fresh.
Lobsters.....	134,340	cwt., fresh in shell.
“.....	60,438	lbs., canned.
Mackerel.....	12,450	“ fresh.
“.....	215½	brls., salted.
Pollock.....	572	cwt.
Salmon.....	2,726	lbs., fresh.
“.....	595	“ smoked.
Fish as bait.....	1,003	brls.
“ oil.....	4,694	galls.

This district comprises the fisheries of Eastern Passage, Devil's Island, Cow Bay, Lawrencetown, Seaforth, Three Fathom Harbour, East and West Chezzetcook, Petpeswick Harbour, Jeddore, Musquodoboit Harbour, Clam Harbour, Owl's Head and West Ship Harbour.

Thirteen vessels and 584 boats prosecute these fisheries in this district, giving employment to 103 and 409 men, respectively, and six lobster canneries established along this coast employ seventy-six hands to operate 18,675 traps with a valuation of \$7,705.

#### PORT LA TOUR.

*Reporter, Mr. J. W. Taylor :*

*Alewives* were taken this season in very light catches in May and June, and on the 26th of former month very few were reported in nets. It is said that the catch at this station is not nearly an average one.

*Cod.*—It was reported on May 5 that the weather had been bad for fishing since the month came in, and the codfishery had not commenced to date. An occasional boat was on the grounds, but with rather poor results. The first report received was on the 12th of the month, four days later than last season, and fair fishing was reported when the weather permitted to the 22nd, with cod boats averaging a quintal per man a day. The last week of May was very windy with rough seas and the fishermen had few chances of attending the fisheries. Codfish were in fair supply the first of June, and on

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the 16th it was reported schools of fish were on the coast and fine weather and bait were all that was necessary to make the fisheries successful. Good fares were taken about June 20 with squid which were now on the coast in preference to frozen herring from the freezer, which bait was not liked by the fishermen, and good accounts of fish were received July 1, but were too wide off shore for small crafts. Bad weather and the troublesome dogfish were a drawback to the fishermen on July 14, as the fish were moving closer inshore, and on favourable days good fares were taken. Dogfish continuing on the coast and the uncertainty of bait on the grounds the latter part of July made the catches very small, and on July 28 it was reported that the past week was the worst of the season owing to the prevalence of strong easterly winds. Disagreeable weather the first week in August prevented the boats from vigorously prosecuting the fishery, but contents of report of August 2 were that the last three days shallops have done very well, and boats inshore fairly so, and on the 27th the times at this station were said to be rather dull in the fishing line, with the exception of the codfishery. Some days' fair work was done by the boats, but generally speaking, fish were scarce inshore. The shallops wide off-shore reported codfishing good the first week in September and did very well with handlines and trawls. Some good fares were taken the middle of September, since which codfish were scarce and practically nothing was done the latter part of the month. It was reported in October, on the 11th, that there was not much doing in the fishing line, as no bait could be obtained and the weather was also very rough. When there is an opportunity for boats to attend the grounds there appears to be a fair school of fish going. The catch of codfish this season, while not so large by small boats as last year, was much better on the outer grounds frequented by larger boats and shallops, making the season's catch on an average fair.

*Haddock* were reported on July 9, in fair quantities and were taken in light catches afterwards until September 26 and 27, when fair reports were again received. The catch was about the same as last year, but higher prices obtained will make the results better.

*Herring*.—The first report of herring was on May 31, when boats reported a few on the fishing grounds, but none were taken in nets. Herring were so scarce after to June 16 that fishermen were using clams instead from which they claimed better results followed, than from bait from the freezer. Shallops were reported doing well outside at the herring and squid fisheries on July 7, and on the 13th plenty of mixed herring were on the coast about 2 miles off shore. In August schools of small herring were in the harbour but were not large enough to mesh well and on the outside grounds herring bait was fairly plenty with shallops occasionally striking a spot where there was good fishing. Some medium sized herring were taken in nets on September 12, when best netter reported for  $\frac{1}{2}$  bbl. and on the 15th the largest catch was 2 bbls. of small herring per net. On October 6, the fishermen were beginning to entertain fears for the usual fall school of herring, but the following week these doubts were partly dispelled by herring of a small size being reported off shore by shallops operating there. The herring fishery this season is considered almost an entire failure, not nearly enough being taken for bait throughout the season and none were salted for lobster bait or export. Mr. Taylor says: 'Large preparations have been made for herring and there is time yet for the voyage to be largely supplemented, if there be a late school.'

*Lobsters* were reported on May 2 and 3 in very light catches and on the 2nd traps were averaging each two lobsters  $\frac{2}{3}$  small, after which the fishery increased to fair on the 6th, 7th, 8th and 9th. It was reported on the 12th that lobsters were continuing fair though the rough weather lessens the catch materially. Lobsters were gradually diminishing in catches on the 26th, and the fishermen were not averaging over one lobster per trap two-thirds small. The last week of May was very blowy and several of the lobstermen hauled in their traps and gear, etc. All lobsters' apparatus was removed on the 31st, and those engaged in this fishery turned their attention to the codfishery. The lobster fishing this season resulted favourably from the fact that the prices obtained for those exported during the season were high and the net proceeds for lobsters sold for canning purposes were the highest ever realized for an ordinary season's catch.

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*Mackerel*.—No mackerel of any importance was taken to October 15, but on September 29 it was reported that 'rumours of some mackerel taken at Blanche about four miles from this station' and on October 14 a few were reported in nets. Should the weather continue favourable the netters may still do something in this line.

*Pollock*.—There has been quite a run of this fish during the season, which are now being readily sold at good prices.

*Squid* were first reported when on the fishing grounds on June 19, and again on July 4. Squid were easily obtainable on August 25, and from September 4 to 9, good schools of squid of a very large size were on the coast which remain so to the 15th of same month.

*Dogfish* came on the case in July and were very troublesome during the season.

The catch in general at this locality, this season is considered an average one, with the exception of the herring fishery.

#### WHITEHEAD, N.S.

*Reporter, Mr. J. E. Dillon :*

*Alewives* were reported on May 1, plentiful and scarce to the 17th, when netters had from 2,000 to 3,000 fish. After June 11, very few alewives were reported.

*Cod* fishing began on May 1, fair but only light hauls were made as there was a scarcity of bait on the coast the first of the month. High winds and rough weather prevented successful fishing the week of the 12th, and as herring and mackerel struck in a few days later, several Lunenburg bankers that were in port securing bait secured a supply. The catch of codfish continued light, the weather being still unsettled until the 12th, 13th and 25th of June, when fair catches were taken. During July several of the fishermen decided to operate on the fishing grounds off the Cape Breton coast and to the 3rd and 4th October when boats reported from 2 to 6 quintals of cod and haddock, codfish were taken in catches varying from fair to poor. Total catch for the season estimated at 1,300 quintals.

*Haddock* appeared on the coast earlier than usual this season, and good catches were taken in April, which remained the same on May 5, afterwards varying from fair to poor, to the 22nd, when the haddock fishery was again reported good. Fair quantities were taken on the 23rd and 24th of May and scarce after the close of the season. Five hundred quintals were taken during the season.

*Herring*.—Although this fishery was poor the first part of the season, herring struck in earlier than last season and were first reported in good quantities on May 20, when for a few following days boats were reported doing very well. Fair fishing was reported on June 29, and netters had from 50 to 100 herring. The catch throughout July and a portion of August to the 21st was very light. On this date herring were reported as having struck in off Port Felix and some boat stopped from one to five barrels. The fish quickly disappeared afterwards and very few were taken for the remainder of the season. This branch of the fishing industry can be considered a failure this season. Total catch this year only amounted to ten barrels.

*Mackerel*.—The first appearance of mackerel on the coast was on May 13, when the weather was reported too rough for line fishing and from two to four mackerel were taken in nets. One boat reported a catch of 150 mackerel on the 19th, and from the 20th to 29th, the fishing was from good to fair, with mackerel reported schooling along the shores on the 24th. In June, dogfish was very troublesome on the coast, but on the 26th, 500 mackerel were taken in traps, and nothing was reported afterwards until five barrels were taken in traps on August 11. The total catch was much smaller than that of last year and scarcely any net fish taken this season were salted for export, as nearly the whole catch was disposed off to the bankers for bait. The season's catch will not exceed 30 barrels.

*Lobsters* were reported in good catches this spring from the beginning of the season to May 1, during which month the catch was light, owing to rough weather, which prevented the fishermen from vigorously prosecuting this important industry, and the June catch varied from fair to poor. It was reported on June 28, that a large number of

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lobster traps were destroyed by heavy storms of recent date. The season's pack is estimated about 2,400 cases, an increase of 100 cases over the pack of 1901. During the season a number of crates of live lobsters were shipped to Boston.

*Squid* were reported on the coast on July 15 in good quantities but did not remain long. Bait was so very scarce at times during the season, that clams were used instead. Squid were scarce to August 13 and 23, when the fish were again plentiful on the grounds, but were reported hard to 'jig.' Very good accounts of this bait fish were received on September 3, and good on the 1st, 12th and 13th of same month and also on October 3.

*Dogfish* struck inshore about June 24, and during the season were plentiful and troublesome as usual.

*Pollock* were not reported during the season, but about 360 quintals were taken this season.

*Halibut* although this fish was not regularly reported, the total catch is estimated at 4,500 pounds.

PUBNICO EAST, N.S.

*Reporter, Mr. J. A. D'Entremont :*

*Cod* were reported one day later this year than last season, being first taken on May 19 in fair catches, which remained so until about June 16, when codfish were reported very plentiful on the coast, and some very good hauls were made, continuing so to August 29, after which codfishing was fair to the close of the season. It is estimated that the total catch for the season, will be a good one, as the following results of the vessels engaged in the codfishery at this station will show :—

	Lbs.
Aurore.....	200,000
Gertrude L.....	460,000
Geneva May.....	350,000
Hazel Glen.....	100,000
Forester.....	87,000
Greenwood.....	150,000
Lucy.....	100,000
Marguerite.....	130,000
N. A. Laura.....	130,000
Nelson A.....	160,000
Senora.....	290,000
Souvenir.....	200,000
Dawn.....	160,000
Nebula.....	90,000
Eddie J.....	147,000
Sea Foam.....	65,000
	<hr/>
	2,819,000
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List of vessels engaged in the lobster fishery, with their respective catches :—

	Crates.
Dawn.....	300
Nebula.....	250
Eddie J.....	275
Sea Foam.....	150
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	975
	<hr/>



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*Herring*, although not taken inshore until late in the season, were reported in fair quantities on July 2 and 5, and on August 14 were off Mud Islands. Very few herring were caught inshore before September 6 and 10, when good catches were made. Fair stops were reported on the 20th and 23rd of the same month. The catch is considered a fair one.

*Alewives*.—Fair quantities of alewives were reported on May 19 and 20 and again on June 2, 3 and 7, with a scarcity afterwards to the end of the season.

*Halibut*, as far as reported were taken in fair catches on June 2, 3 and 7, and scarce after the end of the month.

*Haddock* were only reported in June, and then on the 22nd and 23rd, when good fares were made.

*Lobster* fishing commenced this season, with very poor results, which remained the same throughout the entire season, without any material change. The seven factories in this locality, have packed on an average 1,000 cases each.

*Mackerel* has been considered a total failure on the shores this season.

*Bait* could be procured this season at Schooner Passage, Woods Harbour, Argyle and Mud Islands. Frozen squid at this station.

*Ice* was in good demand throughout the season here.

Although some branches of the fisheries at this station did not show very satisfactory results, the catch on the whole can be considered a fairly good one.

#### SALMON RIVER (PORT DUFFERIN, N.S.)

*Reporter, Mr. Arthur Balcom :*

*Alewives* were taken in light quantities during the month of May, excepting the 6th and 15th, when fair catches were made.

*Cod* appeared on the coast at this station on May 20, a week earlier than last season, and good hauls were taken to the end of the month, which continued to June 21, when the fishing became fair, owing to the unsettled state of the weather. The July and August catch varied from good to fair. September 1, an improvement in the codfishery was reported and exceptionally good hauls were made. In October, cod were plenty on the 3rd and fair on the 9th, 10th and 13th.

*Haddock* were also on the coast very early this season, being reported plentiful in June from the 2nd to the 18th. For the remainder of the season the catch was identical with that of cod.

*Halibut* were scarce at this station during the season.

*Herring* struck in somewhat early this year, and were fair on May 27, and plentiful on the 31st. Fair stops were also made on June 4 and 5.

*Lobsters* appeared in fair quantities the first week in May, but from the 12th to the end of the month were taken in catches varying from good to poor. Unfavourable weather greatly interfered with this industry in June, and to the close of the season only light catches were reported.

*Mackerel* were first reported in fair quantities on May 31, and were very scarce afterwards until the last week in August, when fair catches were reported daily. From September 16 to 27 the mackerel fishery varied from good to fair.

*Salmon* were reported fair on June 16 and 17, scarce during July, and in fair catches on August 4, 5 and 9.

*Squid* were in fair supply from July 13 to 17, and plentiful from 21st to 26th of same month, and scarce after September 22, 23, 25 and 27, when good catches were made. Squid were again reported fair on October 3.

*Trout* were first taken on May 1, and the catches in this month and June varied from good to poor. During July the catch was on an average fair

*Smelts*.—Light quantities of this species of fish were taken in May

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## SAND POINT, N.S.

Reporter, Mr. John A. R. Morrison :

*Alewives.*—Although not reported during the season, the catch is considered about the same as that of last season, or perhaps a shade better.

*Cod* were very late appearing on the coast this season, and the first report received was on May 30, when off-shore shallows reported codfish plentiful on the grounds. No cod was taken inshore to date, owing, probably, to the troublesome dogfish, which took possession of the fishing grounds. In June, from the 4th to 12th, good fishing was reported off-shore, and boats averaged one quintal per man in a day's fishing. Small crafts on the off-shore grounds on June 30, reported plenty of cod, but no bait to fish with, and the schooner *Etta Vaughan*, Thorbourn, master, in port to-day, with 850 quintals of codfish, reports stormy weather on the banks. Fair catches were taken by small boats in July to the 16th, and some of the crafts with a crew of three hands, report about three quintals to a boat a day. The schooner *Agatha* arrived in from the North Bay on July 3, with 700 quintals. The 1st of August, the off-shore fishery was reported very good, which continued during the month, while the in-shore fishing was very poor, scarcely any kind of fish being caught. The boat-fishermen reported fairly good hauls the first part of September, averaging from one to three quintals per boat and good fares from the 15th to 19th. The schooners *Etta Vaughan* and *Corania* from the western banks, on September 15, landed their cargoes of 1,000 and 1,300 quintals of cod respectively, at this port, and on the 27th the bankers, *Ke-trel*, *Nellie J. King* and *Agatha* sailing out of this port, reported for 1,300, 1,100 and 900 quintals cod each. Fair fishing was reported on September 29, and the first week of October. There are five fishing schooners engaged in the codfishery at this station, which gave employment to 100 men, and during the season, the catch totaled 8,400 quintals of cod.

*Haddock* were first reported in light catches on June 20, but the following day the fishing became fair, and throughout the season the catch was identical with that of cod. The small boats and shallows fishing out of this harbour landed during the season about 800 quintals of cod, haddock and pollock, which is 200 quintals better than the catch of last season, notwithstanding bait at times was very scarce and dogfish were plentiful on the coast during the season.

*Herring.*—It was reported on July 8, that herring struck in on the coast, but not in sufficient quantities to meet the demand for bait, and August 1 the small boats secured a small quantity for bait. The first favourable report of this fishery was received very late in August, on the 30th, when herring were fair. The same condition of affairs existed during the first week of September, after which herring became scarce and the catches very light to the close of the season.

*Lobsters.*—Fishing began about the first of January, with good prospects and very good catches were taken during the month but in February, the fishing was not prosecuted to any extent, and during the remainder of the season, the catch was on an average fair. In comparison with last season this fishery is considered somewhat better, and the share per man for the lobsters fisherman, will in all probability average about \$150.

*Mackerel* were very scarce on this coast this season, and were only reported when a few were taken on August 18 and 23.

*Squid* were also very scarce during the season and clams and alewives were used for bait the first part of the season until herring struck in in July, when this fish was substituted for about one month. From August to the end of the season squid were utilized when obtainable.

*Dogfish* put in an appearance about June 16, and the scarcity of bait-fish of the coast this season, may be attributed to the very plentiful numbers of this voracious member of the finny tribe along our shores during the fishing season.

## PORT MULGRAVE, N.S.

*Reporter, Mr. David Murray :*

*Cod.*—Good fares of codfish were first reported on the Middle Grounds by bankers on May 1, with vessels averaging 300 quintals to two baitings. Some single vessels reported 500 quintals on two baitings (one of frozen squid and one of herring) are in port seeking bait. Bankers that arrived the week of the 19th, reported good catches from 300 to 750 quintals on three baitings. Schooner *Clarence B. Smith* hails for 1,000 quintals. During the latter part of May and the month of June, the weather was stormy and fish so scarce that crafts have returned one-third full. The fortunate ones *Terrence C. Lockwood*, *Agatha*, and *Maud Churchill*, hailed for 900, 700 and 800 respectively. Cod were scarce in July, but the first week in August saw a decided improvement in the fishing and vessels arriving from the North Bay codfishing grounds reported good fishing, and all of them had full loads from 800 to 1,100 quintals. The prospects were so promising that all of them have gone back again on a second trip, with the addition of seven others. The schooner *Mary C.* from Labrador on August 15, spoke several vessels near the Magdalens and Second Chapel up the north side of Prince Edward Island and all report codfishing good, but no bait obtainable. The schooner *Minnie M. Cook*, sailed into port, the week of September 15, with 1,400 quintals codfish taken off Bank Orphan, in Gulf of St. Lawrence. Dogfish at Port Hood and Cape Jack Light drove all kinds of fish away during the latter part of September and the first of October.

*Herring* this season have been very scarce, both in the spring and summer, and one may include the fall fishery. Vessels that went to the Magdalen Islands for bank herring did not do anything ; but those that visited Caraquet, N.S., fared better, obtaining all the herring they could salt, which realized for them good prices. A few herring were reported in nets at Cape Jack Light, on September 15, but dogfish greatly interfered with the twine.

*Lobsters.*—The catch of lobsters this season was somewhat below that of 1901, there being packed by the two factories here, 850 cases against 1,600 cases of last season. Lobsters were fairly plentiful the first of the season, but not nearly so towards the close.

*Mackerel* were reported fair in Chebucto Bay, May 21, and a few taken in nets on June 7. Mackerel were so scarce along these shores during July, that the only American seiner that came to the Bay, left for home, being unable to see a fish. On October 15, it was reported that there was a scattering mackerel caught in nets in Chebucto Bay, but the prospects are not very bright for a fall catch, in fact, our reporter says : ' Mackerel is out of the question in our waters, as well as Chebucto Bay.'

*Squid.*—Up to the present squid has not arrived on the coast, so cannot be reported upon. The bankers, that baited with frozen squid on first tripe did well and were loud in their praises of the article and pronounced it 'extra good' for cod purposes. Our hand-liners also fared well on first and second trips, with bankers all reporting good season's catches.

*Pollock* which were taken in light catches the early part of the season, was first reported on May 15, the earliest known here for this fish at this station.

## YARMOUTH, N.S.

*Reporter, Mr. F. L. Hatfield :*

*Alewives* were an average catch at this station this season, fair hauls being taken in the month of May and a portion of June. About one half of the quantity taken was sold fresh for bait, the other half was salted for market, but prices ruled very low. We have been informed by our reporter that one party, who tried to dispose of his catch in the United States, found his merchandise unmarketable in the Boston market and could scarcely give them away.

*Cod* struck in plentiful on May 1st, but for the next fortnight bad weather prevailed along the coast and prevented the boats from attending the fishery. The

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fishing was fair on the 17th, and reported good on the 28th, after which bait was very scarce and nothing was done until the 12th of the following month, when fair hauls were made, with codfish plentiful on the shores on the 24th. In July very large numbers were seen on the 7th, and it was reported on the 19th that bait was very scarce, otherwise cod and haddock would have been taken quite freely. Bait was again scarce in August, and very large quantities of cod were off shore on the 1st, 4th and 14th, and in fair numbers on the 25th. Good fares were taken September 1, as bait was now in fair supply and large quantities of cod were on the coast. A few fish were taken after to October 11, when the last report had the fishery in a good condition. During the season the off-shore and bank fishermen made very good catches and the total catch is considered a fair one.

*Haddock* appeared on the coast during the year about the 27th of May in fair quantities and throughout the remaining portion of the season were taken in catches almost identical with that of cod. The catch is also considered above an average one.

*Halibut*.—Fair, but somewhat irregular catches of halibut were taken in the month of May by the fleet operating offshore and in June the fishery was very light. Fair fishing was reported on July 7, with small catches on the 19th and 22nd of the same month. This season's catch will not average that of last year.

*Herring* as bait was very scarce the early part of the season and the first report received of this fishery was on July 22 and 25, when the fish was reported in the floating trap at Yarmouth Bar. On August 13, a good run of herring were reported at the mouth of the Tusket River and herring bait by fishermen's nets was obtainable at Mud Island. Large quantities of large size herring, but of poor quality were taken at Mud Island and vicinity in September, on the 11th and on the same day it was reported that quite a quantity of small fish struck in off this port. Very good catches of herrings were made off Yarmouth Bar on the 29th, and in October, on the 11th, at the Tusket Islands, small fat herring were said to be in large numbers.

*Lobsters* were taken in fair catches May 1, but rain and foggy weather setting in after caused a suspension of this industry until the 27th of the month, when fair fishing was reported. The catch for the entire season is considered a fair one, with good prices prevailing. The heavy winds during the winter months are reported as having destroyed a considerable quantity of the gear of this fishery, and the canneries in this locality are said to have done a very good business this year, which is attributed to the strict observance of the close season, and other protective measures.

*Mackerel*.—It was reported on May 10, that the mackerel traps had been generally broken up by recent storms and at the same time came the report that one mackerel was taken from leader of Short Beach Trap on Thursday the 8th. The weather was so rough and windy for the next few days, the small boats were not out and no netting was done. On the 16th, 35 mackerel were taken in County Line Trap and the following day two barrels were reported. Two traps pursed on the 19th, with the result that one had 35 mackerel; the other was full of pollock. Traps were averaging 50 mackerel on the 22nd and on the 23rd, seven reported for 100 fish. In June comparatively little was done in this line and mackerel were so scarce that two traps were removed on the 4th, and the remaining five will in all probability average about 30 mackerel. Dogfish now put in an appearance and as a result the traps were doing nothing. The catch this season, as compared to other seasons, is a total failure.

*Salmon*.—About three or four salmon were taken in May, on the 21, and on the 27th, fair fishing was reported with a few being caught in June, on the 12th. The catch was considered light this season.

*Trout* were reported plentiful in May, on the 1st, and fair on the 27th, and were said to be fairly plenty during the season.

*Shad* were reported fair in May on the 17th and 27th.

*Pollock* were reported quite plentiful in the spring, but the fish were very small. Later in the season the pollock that were going were of a larger size.

*Eels and Smelts* were an average catch this season.

## CAPE BRETON.

## WEST ARICHAT.

*Reporter : Mr. C. P. Lelacheur.*

*Alewives.*—Were again a failure at this station, this season.

*Cod.*—Appeared in small numbers early in May and the fishing was poor to the 2nd of July, when fair catches were reported for a few days. Fair fishing reports were again received but poor fishing was experienced up to the 14th, when the codfishery improved and fair to light hauls were made to the end of the month. The fishing was poor all through September and the rough weather of the first week of October practically put a stop to the work. Scarcity of bait has again been a serious drawback to the fishermen, for there is no doubt, says our reporter, 'had an ample supply of bait been obtainable throughout the season, the catch of cod would easily have been doubled. The total catch, this season is again very small.

*Haddock.*—Light quantities of haddock were taken in May, but the catch was a very poor one this year.

*Herring.*—On June 26th, light catches of herring were taken here, and at 'Thomas' Head' about seven miles, from this station, good fishing was reported but the fish were said to be small. Fair catches were made on the 2nd and 3rd of July, good on the 8th, and fairly good the following week. From the 15th, to the close of the month, the catch was variable, but mostly poor and at no period during the season was the catch regular. Scarcely any fish were taken in August, which usually was the best fishing and none were reported in September. This season's catch of herring is the poorest ever known in this locality. To many this fishery has been a total failure and some well know fishermen have not even caught sufficient for their winter's supply.

*Lobster.*—Operations in the lobster fishing began early in April and light catches were made to the end of the month. Fair fishing was reported on the 8th of May, after which the fish slacked off and continued scarce to the close of the season. There has been a steady decline in this industry the last few years, until now it is no longer a paying business, some fishermen having hardly paid expenses this season. Mr. LeLacheur reports that 'mackerel this season have been unknown to these shores and pollock and hake were taken in such small quantities that they do not warrant any mention. On the whole the fishing at this station, this year, has been unprecedentedly bad, the worst season experienced by the fishermen, many of whom abandoned the fisheries early in the season, and fortunately secured employment with the Cape Breton Railway.

## ARICHAT, C.B.

*Reporter : Mr. J. T. Jean.*

*Cod.*—The fishing at this station, this year, was some thing earlier than that of 1901. In May only very light catches of codfish were taken owing to the scarcity of bait and foggy and windy weather, which prevented line fishing. In June, some boats made fair catches, when bait could be procured, and the fishing continued fair during the months of June and July. Herring bait was very scarce in August and as a natural sequence the fares of codfish were small. When squid struck in along the coast in September, fair catches were reported daily except when high winds prevented the boats from attending the fishing grounds. Very little fishing was done in October, on account of high winds and moderate gales..

*Haddock.*—Were first reported on May 5, when 100, 200 and 300 haddock were taken per boat. Fair hauls were made in the same month on the 7th and 16th, afterwards becoming scarce. On the 22nd the haddock fishery in the harbour was reported to be not nearly as good as in former year and the total catch was even smaller than the catch of last year, which was estimated as being a small one.

*Herring.*—Struck in the harbour about the middle of June and some boats secured upwards of five barrels. To the 12th of July, herring were taken in catches varying

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from fair to poor, and from that date, when a fair catch was reported to the close of the season, the fishermen were hardly able to obtain sufficient herring to meet the demand for bait. The catch, this season, was considered a total failure.

*Lobsters.*—Fishing commenced a little earlier than last season, with good catches reported in April. A fair catch was taken on May 3, after which date, lobsters became scarce during the remainder of the season. The catch can be considered about the same as 1901, a very light one.

*Mackerel.*—Were first taken on the coast May 19, when a fisherman reported 65 mackerel from two nets, which he set as a venture a few days previous on his way to the lobster grounds. The following day, the same boat reported 45 fish and on the 29th, 100 mackerel was the result of a catch. Mackerel were not reported again until the 3rd of Sept. when a few were taken in nets. The catch, this season was again pronounced a failure, although our reporter is of the opinion that a fair condition of things would have existed in this line, had the fishermen placed their gear out, when the fish were in the harbour.

*Squid* appeared along our shores in August and continued to be taken in small quantities in and off the harbour, from the latter part of the month to the present date (October 27). Fishermen would have been very successful in obtaining sufficient quantities for bait, had they arrived on the grounds between daylight and sunrise, as squid can be taken on the "jigs," anywhere off the harbour at that time.

*Dogfish* are a great nuisance and hindrance to the fishing industry at this station, especially in September and October when the fishermen begin trawling. Very few Gloucester fishing vessels were in port this summer, as no ice was stored here last winter. On the whole, all branches of the fisheries, with the exception of the codfishery were below the catch of last year.

DESCOUSSE, C.B.

*Reporter : John P. Gruchy.*

*Alewives* were first taken about June 4, and for the following week light catches were made. Three barrels are reported as being the catch this season.

*Cod and Haddock.*—Light catches in both branches of these fisheries were made on the 2nd of May, but the fish were reported afterwards very scarce owing to a continuation of east winds and rough seas. During the remainder of the month and in June, when only a few cod were caught, the weather was so stormy that the fishermen were unable to visit the grounds. In July when the weather was fairly fine those who journeyed to the fishing grounds complained of a great scarcity of fish, which continued until it was reported on August 9, that the weather had been so stormy the past week with a continuance of easterly winds that there has been no fish taken of any kind; even if the weather was favourable, it is not at all likely that the fishermen would visit the grounds as haymaking was the order of the day, and all hands are engaged in securing their usual hay crop. It was stated in August, that it was never known at this station for fish to be so very scarce as this season. To the remainder of the season cod and haddock were scarce on account of disagreeable weather, and not even half fares were taken by best boats throughout the entire season.

*Herring.*—Light quantities of herring were first taken on June 14, which continued the same to July 3, when fair reports were received for one day only, afterwards herring were in light catches to the 20, and it was reported on July 26, that the July catch of herring was the smallest for many years past. The fishery in this district is considered a total failure this season. No fall herring was taken and the total catch is estimated at 15 barrels.

*Lobsters* were taken in small catches to May 10, and the general opinion was that better results would have been obtained had bait been procurable. The weather was now very stormy and blustery, and from May 11 to 23, the catches were on an average fair, remaining poor after to the close of the season. Our reporter says :—"The season has been anything but prosperous in this fishery; continual stormy weather caused much loss to the fishermen's gear, and bait was also scarce during the season, in which

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there was packed by the cannery in this district about 150 cases." No live lobsters were shipped from this point this season.

*Mackerel*.—The first appearance of mackerel on these shores was on May 22 and 23, when a few were taken in nets and a fair stop was made on the 30th. The catches the following months of June, July and August were exceedingly light, owing to unfavourable weather along the seacoast, which caused a scarcity of fish in all branches of the fisheries. On August 30, it was reported that mackerel of a fair size were taken in nets, also with hooks, but were not plentiful. Mackerel were reported schooling, but not hooking freely September 1, and the report of the 17th, was that a small stop with hook was made the past week, excepting one stormy day. The fish were in many schools, but did not mesh well. The following week mackerel were still schooling off this port, but were not hooking well. None were taken in nets, and the fishermen were of the opinion that the weather was rather too mild for mackerel fishing. Small schools were again on the coast the latter part of September, but none were taken on account of the stormy weather prevailing. About 25 barrels will represent this season's catch of mackerel with hook and nets.

*Squid*.—First appearance on the coast was on July 4, from which date to August 8, fair reports were received almost daily. None were taken afterwards and the supply obtained was utilized in the cod and haddock fishery.

The season's catch on the whole in this district is said to be the worst ever experienced by the fishermen, and is far below that of last year, which was considered a very poor one. The weather has been very rough and inclement for the inshore fishery the past season, and all the fish seem to have kept well off shore.

INGONISH, C. B.

*Reporter : Mr. J. M. Burke.*

*Cod* appeared on the coast this season, a little earlier than last year and were first taken on April 18, on trawls. Between this date and the first day of May fair catches were made with trawls and handlines, continuing from fair to poor throughout May and June. Squid was obtainable on July 14 and 15, and boats averaged from two to five cwt. between the 22nd and the 26th. For the remainder of the season codfish were scarce, excepting a few days in September, when fair catches were made on trawls. On the whole the catch is considerably below the average.

*Haddock* were first taken on May 1, in fair quantities. Good catches were made from the 8th to 20th of same month, after which owing to stormy weather and irregularity of bait, the fishing was dull to the close of the season. The catch is considered below that of last year.

*Herring* also struck in along the coast earlier than last season and were first reported on April 15. The spring catch was light this season, excepting a few barrels salted for lobster bait. The rest was used baiting trawls for cod and haddock. There has been no summer run of herring this season.

*Lobsters* were taken in fair supply as soon as the law permitted the setting of the gear on May 1. The fish were fairly plentiful during May and up to June 15. From latter date to the end of the season, the catch was light. Stormy weather greatly injured the success of this branch of the fishing industry this season, the traps being badly wrecked by easterly gales and heavy seas on June 7 and 25, and in some cases the gear was so entirely smashed up that several of the canneries suspended operations for the season about the latter part of June and July 1.

*Mackerel*.—The first appearance of this fish was noted between May 15 and 20, when light catches were taken for about a fortnight. Light catches of summer mackerel were taken in shore-fast nets in July and August. On September 17 and 18, mackerel were reported hooking moderately, with boats averaging from 100 mackerel downwards. The catch this season is considerably below last year's.

*Salmon* appeared between May 15 and 20. The catch was very light on this shore, this season, one-half of which was sold fresh and shipped to various markets.

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*Squid* struck in between June 17 and 30, in fair quantities and varied from fair to poor during July and August. From August to present date, October 15, squid were reported very plentiful.

*Dogfish* have been plentiful since July 1, and at times has greatly hampered cod and net fishing during the latter part of the season.

L'ARDOISE, C. B.

Reporter : Mr. John McIsaac.

*Cod*.—From the opening of the season to June 27, the inshore fishery was very poor, and on this date the fishing was reported fair for the first. On July 2, 11 and 14, codfish were on the coast in fair quantities, but few boats attended the fishery, as nearly all the larger crafts were operating in the vicinity of the eastern grounds, from which locality on July 25, boats arrived bringing good fares. There was good appearance of cod the first of May, but dogfish were so troublesome that scarcely any bait could be had. Haymaking was reported on August 8, as being the order of the day, when the weather was suitable and all fishing operations were suspended until this work was finished. Good catches were reported by all vessels that came in port the latter part of August from the eastern grounds, and from September 3 to 12, the codfishery was fair. September 24 saw the fishery almost at a standstill, excepting a few boats codfishing, when the weather permitted, and on October 1, it was reported that there has been scarcely any fishing indulged in here lately and the fishing season is nearly over, save a few days when codfish are on the coast. The fishermen at this station are now turning their attention towards building small crafts between twenty and thirty tons burthen, for the eastern ground fisheries. There are now three new ones in course of construction on the stocks, which will be completed in time for the opening of the season next spring. The four or five vessels that prosecuted the eastern fishery this season all reported as having done well.

*Haddock* made its appearance on the eastern shore grounds, about April 20, very much earlier than formerly. There were no large catches made but some boats reported as high as fifty fish. This catch was taken at the eastern end of this station, commonly called Little Harbour or Little L'Ardoise. Haddock, the first of the season, were very poor and hardly worth mentioning, and during the remainder of the season were taken in light catches.

*Lobsters* were the first fish taken this season and were on the coast about the usual time in fairly good quantities, while bait was obtainable. Throughout the entire season, lobsters were considered scarce and appear to be getting scarcer in this locality each season. There are not as many employed in the prosecution of this industry as formerly, many seeking employment with the railway, others engaged in the Grand Bank fishery. The fishermen, who prosecuted the lobster fishery this season were well recompensed as prices ruled high. There are only two canneries in this neighbourhood, situated between St. Peter's and Point Michaud.

*Herring* struck in the first week in July, but no large stops were reported, and herring were very scarce during the season. In fact the herring fishery is considered a failure this year, and Mr. McIsaac reported on August 2. 'If I went around and offered \$6 cash for one barrel of herring, I do not think I could get any and the season for fat herring is now over except a run that comes in this month, and they will be of poor quality.

*Mackerel* were first reported this season, on our shores, when one boat had twenty mackerel on May 15. Fair quantities of mackerel were inshore on the 20th and 26th, and on the 23rd one boat reported three barrels one morning, and another barrel of large and middling fat fish. The catch was very good the week of the 29th, but on the 28th, the weather was so blowy and foggy, the boats could not venture out. Mackerel struck in here very heavy the last of May and those having large quantities of gear out did well, but unfortunately the demand for salt was greater than the supply, as the merchants had only a limited quantity on hand, and did not wish to be overstocked in this line as in former years, when fish in these waters were very scarce. The mackerel



that were taken on the coast were said to be of large size and good in quality. The catch to June 6, was far in advance of what it has been for many years past. Mackerel struck in the bay for two nights in large quantities and those having considerable gear set did remarkably well. As far as reported, some good fares have been taken. The following week the mackerel voyage was reported over for the season, which has been considered a fair one. Some of the fishermen sent their catches to market early in the season; others, who held them until late in the fall did much better as the prices realized were higher, and as a result the fishermen are well provided for the incoming winter. It is the general opinion that more of the local fishermen will engage in net fishing the coming season as our reporter says: 'I never saw a better quality of mackerel than those caught here this spring. Just like fall mackerel, extra large and fat, and also adds: 'That when the Cape Breton Railway Company completes the railroad down here, I think there will be a great business done at this station, in the fresh fish line, as the railway passes quite close to L'Ardoise, and with such facilities, the winter fishery will be the industry that will spring up. The railroad is now nearly constructed to St. Peter's.

MARGAREE, C.B.

*Reporter: Mr. M. A. Dunn.*

*Alewives* came on the coast the latter part of April and small catches were taken to May 20, when the fish struck in plentiful for a couple of days and a few good catches were made. For the balance of the season the reports were generally poor and the whole catch was considered a small one.

*Cod* appeared on these shores about the last of April, and in the month of May, with few exceptions, the reports were from good to fair with trawls. The catch continued varying in this condition throughout the months of June and July with hand lines the principal means of fishing. After the close of the latter month, the fishery became more irregular, caused chiefly by swarms of dogfish and unfavourable weather. When an opportunity afforded and boats visited the grounds, during the remainder of the season, the reports of codfish were generally good and fair. It was also stated that a considerable quantity of cod was caught in November, and that the fishermen were of the opinion that there has been more codfish on the coast this season, than has been for quite a number of years back. The total catch is estimated at 20 per cent above the average.

*Haddock* were taken in catches throughout the season with cod and represented about 15 per cent of the quantity taken.

*Hake*. The hake fishery was only a trifle until the latter part of the season, when a few fair catches were made. The total catch is considered about the same as last season, a small one.

*Herring* were reported the first week of May in light catches, which continued to June 20, when a few stops were made. After this only a few herring were captured, the abundance of dogfish on the coast preventing netting. Total catch very small.

*Salmon* put in an appearance about June 10, with light catches taken to the 20th of the same month. From this date to July 10, reports were from fair to poor and for the remainder of the season the run of the salmon was comparatively light. It was reported on July 7, that salmon nets and traps were placed out of order by recent storms. The catch of salmon during the season is considered below the average.

*Lobsters* were taken out about May 1, from which date until the end of the month, the average catch was fair; after which the fishing gradually decreased to the close of the season. The catch this season was very small.

*Mackerel* fishery has been considered a complete failure at this station during the past season.

*Squid* struck in about July 1, and for the greater part of the season were reported in catches varying from good to fair.

*Dogfish* were reported in July on the 24th and for the remainder of the season, were on the coast in large quantities and a menace to successful fishing.

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PETIT-DE GRAT, C.B.

*Reporter : Mr. Peter T. Fougere.*

**Alewives.**—It is becoming evident that this fish has left our coast, as in previous years, where a few were taken along with other kinds of fish such as mackerel and herring, none were caught during the season.

**Codfish.**—First appearance on this coast was on May 15, and to June 13 light fares were made, owing partly to the high and strong winds, with a scarcity of bait. On May 21, the boat fishermen secured sufficient herring for bait, and the schooner *Lady Laurier* and *Lillian Louise* in port seeking bait were enabled to obtain a quantity and proceeded to the Banks off Canso, where codfish were reported fair. Fair reports of cod were received in June on the 13th, 26th and 30th, but the weather was so very rough that the fishermen had little chance of fishing. Codfish fair on the coast on the 2nd and 7th, with windy weather, were the reports received in July, and the schooners *Pearl*, *Lena Jane*, *Lillian Jane* and *Lady Laurier*, in the bay on the 12th, reported poor fishing on Canso Bank, but plenty of dogfish. Bankers fishing out of this station were compelled to leave the neighbouring grounds and operate off Scatterie, where bait was obtainable, from which good fares were made, and returned to port again early in August. High winds and heavy tides, together with the troublesome dogfish, which were plentiful and very destructive, completely suspended fishing operations during the remainder of the season, in which it is estimated that the total catch will not average 50 per cent of that of 1901. It was reported by the trawlers that went out on Saturday, October 11, that dogfish had destroyed a portion of their trawls, and five sails are now in the harbour awaiting the disappearance of this troublesome visitor from the grounds. The weather to date is so very severe that vessels cannot go to the grounds twice a week, and should they succeed, dogfish prove a hindrance to the work.

**Haddock** first made their appearance on April 20, when a few were taken on trawls, and the net fishing was reported fair in May on the 5th and 7th; August 26 and 28, and fair again on October 3 and 4. Although the catch was about the same as that of last year, the quantity cured for foreign markets was not as large as in former years and the price obtained for haddock sold fresh in November was \$3 per cwt.

**Herring** were reported on the coast in May on the 12th, in fair quantities, but the first catch was made on the 24th, when enough were taken to supply the demand for bait. The catch was light after until June 28, when the schooner *Harold* of Lunenburg, made a stop of twelve barrels. The fishing was reported fair on June 30, and a light catch was made on July 1, which increased to fair the next day. On July 5, the American schooner, *Helena G. Wells*, under license, obtained a supply of herring and sailed for the Banks. The fares were very small during the month, and the schooner *Lady Laurier*, on August 2, from the Banks, reported good fishing, with bait plentiful. The report of August 16 was the poorest ever experienced in this locality by the fishermen, some of whom setting as many as sixteen nets, only reported one barrel of herring. The fish struck in abundance on September 11, but on the following day dogfish destroyed the nets that were set, as well as damaging very badly twelve nets belonging to the schooner *Lena Jane*, of Port Hood. Herring were scarce for the balance of the season, and it has been reported that the fish has taken another course. Very few herring were reported as having been taken in these waters this season and the average catch is about 80 per cent of last year's. Only three bankers obtained bait during the season, and the schooner *J.B.M.*, prosecuting the net fishing up the Gulf of St. Lawrence and off the Magdalen island coast did practically nothing in their fishery the whole season. The scarcity of herring on the shores caused the schooner *Vanguard* to abandon this branch and engage in the coasting trade.

**Lobsters** appeared at this station about the same as they did in 1901, on April 15, and the catches were light from this date to May 20, afterwards lobsters became scarce to the close of the season. The quantity packed was about the same as last season's but a small number of crates was shipped to the United States on account of the crustaceans being under the size limit for exportation. On June 28, it was reported that the last gale on the coast destroyed all the traps set, none of which were repaired

as the season was fast drawing to a close. One cannery at this point took advantage of the ten days extension granted to the fishermen by the government.

*Mackerel*.—This fish and alewives, are fast disappearing from this coast. About 300 mackerel were taken by one fishing vessel in June, and none were seen along the shores afterwards. In previous years, August and September were generally good months for mackerel fishing, but this year none were caught, and a lot of time was wasted by the fishermen, who had made preparations to capture this fish. The schooner *J.B.M.* is reported as having stopped fourteen barrels during the season.

*Pollock*.—Like other branches of the fishing industry, pollock also declined to about 70 per cent of the catch of last year.

*Salmon*.—This delicious member of the finny tribe is also on the decline, and will fall short of last season's catch by about 75 per cent.

*Oil*.—About sixteen casks of oil, containing forty-four gallons, have been exported from this port during the past season, a decrease of six casks, or 264 gallons, in comparison with that of 1901.

*Dogfish* came on the coast in August, in good numbers, and in September, on the 12th, destroyed all the nets set for herring purposes, and also gear and twelve nets of the schooner *Lena Jane*. On the 20th of the same month, it was reported that there was no fish of any kind on the coast except dogfish, which has destroyed fishing gear to the extent of several thousands of dollars, and to the close of the season this pest was still hovering around the grounds and very destructive to the fisheries. This destructive fish, says Mr. Fougere, has wrought great damage to the fishing industry in this locality during the past season, and in October boatloads were being taken ashore and piled in heaps for fertilizing purposes.

*Squid*.—This fish struck the coast one evening in July, but in small quantities and the catches were very light until the month of October, when they appeared plentifully. The Fisherman's Bait Association, with the assistance of the Dominion government, has established a good bait freezer at this station, where at present about fifteen tons of squid bait is undergoing the process of freezing, and in the course of a few days the freezer will be full to the capacity of its burthen—twenty tons. There are ten small crafts sailing out of this harbour engaged prosecuting the winter fishery, and the erection of the above institution will be quite a boon to them, with brightest hopes for next season's labours. Our reporter is of the opinion that there is a fine field for enterprising men with small capital to locate in this locality in October and engage in the fresh fish industry, in which they would receive good interest on their investment.

The operation of smoking the finnan haddie tribe will commence shortly by two of our most enterprising merchants.

The fresh fish industry this winter promises to be a great success. There are fifteen large boats out of Petit-de-Grat, and a number of smaller ones from Cape Auget and here engaged. The stormy weather of the first of December somewhat interfered, but they are making it up these fine days. On the 2nd inst., the boat captained by and owned by Elias Landry, Petit-de-Grat, and which carries seven men, landed fifteen thousand pounds of haddock, for which they received \$225, netting each man clear \$25, a fifth going to the boat. The boat captained by James Kehoe, Arichat, landed to day (3rd) thirteen thousand pounds. All the other boats did well and have been doing well. Four fresh fish buyers are at present here, and there might be others, for there is room. This is only the second year for our fishermen to be engaged in winter fishing, and this is an industry capable of much development. A hundred boats could as well be engaged as fifteen. The government helped to build a freezer at Petit-de-Grat, and H. E. Duff & Co. have done much to foster this new industry for our fishermen. "Petit-de-Grat is the best winter fishing centre in Nova Scotia."—The *Morning Chronicle*, Jan. 3.

PORT HOOD, C.B.

Reporter : D. D. Tremaine :

*Cod* first came on the coast this season early in May, and were taken in quantities varying from fair to poor until the approach of the dogfish, the third week in August,

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after which this fishery declined considerably, whilst the quantity of dogfish on the shores was largely augmented. All things being considered, the catch for the season was a medium one.

*Haddock* also appeared early in May and continued during the season in fair quantities until they gave place to the voracious dogfish the latter part of the season. The fish caught were of an excellent quality, and the catch is considered a good one.

*Hake* fishing commenced about June 17, in fair quantities. Although there was an occasional good catch, still the catches throughout the season for some unknown reason were not large, and the total catch is considered not up to the average.

*Herring* struck in along the coast in May, but not in the usual large quantities. The summer catch was similar to that of spring, a small one, but the herring taken were of good quantity. The catch for the remainder of the season was light.

*Lobster* fishing began in April with fair catches, which remained so, with an occasional falling off, until near the close of the season, when lobsters became small in size and the catches greatly diminishing, several of the factories ceased operations. The catch was about the same as last season, and is said to be a good one.

*Mackerel* appeared first on June 24 and 25 in fair quantities, after which, to July 31, when the fishing was reported the same, light fares were taken each day. Fair stops were made on August 1 and 2, and poor for the balance of the season. Total catch reported small, about same as 1901.

*Squid* were reported on the coast in fair quantities from July 22 to 26, August 23 to 30, and October 2 to 5. Those that struck in shore in July were much prized for bait as there was a scarcity of herring about this time, and mackerel were being utilized for bait purposes. In August, when squid appeared in the bay, dogfish were very destructive.

*Dogfish* struck in about the usual time this season, the last of August, in such numbers as to cause a speedy suspension of the fisheries both in the line and net branches, and this troublesome and destructive creature was still on the coast in undiminished quantities, and larger if anything, to the close of the season.

ST. ANN'S (ENGLISHTOWN).

Reporter : Mr. Thomas D. Morrison.

*Cod* appeared on the coast this season, on May 2 and 3, in fair quantities and were taken afterwards in light catches to June 30, when the fishing became fair again. Bankers reported good fares on May 5, and in the month of July, on the 3rd and 9th, reports received indicated fair fishing. To the close of the season codfish were scarce.

*Haddock* were on the coast this season, in very light quantities.

*Herring* struck in along our shores early in April, in fair numbers and the combined catch from the first trap set on the 23rd, and the day following was sufficient to bait one vessel. Good stops of herring were made on May 1, and from now to the middle of the month, the catches varied from good to fair. None were reported afterwards. Quite a number of bankers baited at this station with this commodity during the season.

*Lobster* fishing commenced early for this locality, this season, but the fish were scarce, until the 8th and 9th, when fair results were obtained and again on the 29th fair catches were made. During the month of June on the 13th, 14th and 17th, the fishermen reported fair catches, with light ones after to the end of the season. The packers are reported as having done fairly well during the lobster season.

*Salmon*.—The first salmon for the season was taken on June 16. Throughout the year the runs were small and the catches were considered light.

*Pollock* were reported as schooling in abundance during the season, but very few were taken in trips or by the local fishermen.

*Squid* were first observed on our shores, when they were beaching on June 16, and on the 28th, traps reported quite a quantity. Squid were plenty on June 1 and to the 16th, were taken in catches varying from very good to poor, which enabled a few vessels to obtain their usual supply.

## CHETICAMP, C.B.

*Reporter : Mr. Chas. E. Aucoin.*

'I herewith respectfully beg to submit my detailed Annual Report on the fishing operations of the present year together with a synopsis of the catch of the different kinds of fish captured at each of the following stations :—Cheticamp proper, Cheticamp Island, Grand Etang, Cape Rouge and Pleasant Bay.

The fleet of registered boats for the above five stations numbers twenty-two. Deeming it somewhat of importance, I will here have the fleet with tonnage listed :—

	Tons.		Tons.
Mary.....	10	Majestic.....	11
Virgin.....	10	Marie Joseph.....	11
Elizabeth Ann.....	10	Louise.....	11
Flying Star.....	10	Lucy.....	11
Florence.....	10	Mary Lambery.....	11
Laura.....	10	O. L. B. m.....	12
Marie.....	10	St. Helier.....	12
Catherine.....	10	Lillie.....	12
Willie B.....	10	Emma Brow.....	17
Mizpah.....	10	Claribel.....	19
Campania.....	11	May Flower.....	20

The majority of these boats are without decks, but they are, however, solidly built and are very capacious. One's heart would thrill at the sight of a ten ton burden triumphantly cresting the foaming angry billows of the dark blue ocean. I may say that the general equipment of these boats was not of a very bad order, and I noticed an unusually thorough overhauling and repair this spring, especially in painting, and in the process of 'flamber' as the French saying goes, with tar and lighted bark. Ice broke and loosened off the shore quite early which gave evidence of an early opening of navigation. Not a speck of ice was to be seen after April 1. But generally in the onward march of things, there is always a force ready to counterbalance a good effect, and that was the unusually cold spring which greatly retarded the preliminary success of the fisherman. The month of April was largely characterized by constant breezes with a heavy and foggy atmosphere and a biting blast which is peculiar to North-east wind. Yet, with all the seeming natural disadvantages lying in the path of the daring fisherman, three boats the *May Flower* the *Mary Lambert* and the *Claribel* cleared from this port for the Magdalen Islands to avail themselves of the early strike of herring around those shores. After seven or eight days, they returned with an average cargo of one hundred and fifty barrels each, a nicely accounted haul.

The greatest bulk of these cargoes was stored in the bait refrigerators for future use. I can say that the Magdalen Island herring had a special quality this year that I never saw before, being a thick, fat and well rounded herring. This sort of spring herring stands in striking contrast with the one usually entering the bay here about May 1. The latter was of a poor quality and caught in very small quantities. Another variety of herring appeared off this shore in the first part of June. This was a fat heavy herring—the cream of the different species,—an exquisite flavour, but I regret to say that it was not made the dish of food, but served wholly for bait purposes. Nets were set about June 15, and during the remainder of the month, hauls ranging from three to nine hundred were made. This herring was still on our shores at the end of July. A fourth variety is the fall herring, which generally enters the bays and harbours in the latter part of November.

Although very small, it is nevertheless a substantial herring, and a very valuable article of food. Our fishermen usually provide themselves with a fair supply of it for winter use. I will now divert my attention to the staple fishes which play a more important part in the fisherman's career.

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For a number of years, Cod for some unaccountable reasons has been gradually receding from our shores into deep water, until now it is seeking grounds which lie some fifteen or twenty miles off land. Hake and haddock have also apparently abandoned their favourite resort. This renders the fisherman's vocation a very arduous one, involving, as it does, a great risk to both life and property. Where boats could once drop anchor on excellent grounds a hundred yards from shore, they now have to sail almost half a day in order to reach a line about mid-way between the Magdalen Islands and the mainland where nothing but sky and water meet the gaze of the courageous fisherman. There, in the recesses of the deep, lies the undisturbed home of the cod waiting for the appetizing bait to reach the bottom. Often after two or three hours diligent toil, a boat may return with a handsome day's earning. When occasionally a dead calm sets in, these boats are forced to remain on the fishing grounds over night as it would be an utter impossibility to depend upon the oars in rowing a distance which takes on an average eight hours sailing with a gentle breeze. In this connection, it is a noteworthy fact that fish remaining in bulk in a boat's hold for twenty-four hours before being landed, loses much of its freshness and firmness, and therefore becomes soft and flabby, a pitiable condition incurring a serious loss to the buyer, as this kind of cod cannot possess the requisite qualities when cured that it otherwise would. Cod was considered poor in quantity in the early part of the season and alternating throughout to good and bad. It probably reached its maximum figure on July 9, when the schooner *St. Helier* owned by Chas. Robin, Collas & Co., secured a haul of two thousand, eight hundred and forty-six pounds. On September 18, the same boat fetched another haul of two thousand, four hundred and sixty-seven pounds. Hake and haddock, were quite unsteady throughout the season and much given to frequent fluctuations. In quality, 'poor' hake and 'fine' haddock was the predominant feature. I may also add that the schooner *May Flower* arrived here on August 2 after a trip of about twenty days in deep waters with a hundred quintals of fish containing a large percentage of hake and haddock. Special mention must be made of the bait-freezer at Eastern Harbour which had specific connection with the fishing industry and whose important advantages cannot be overestimated. Fishermen are coming more than ever in contact with it and fully recognize its ever increasing benefits.

I visited the building in the spring and went through all the different compartments. I found everything in good working order, and that the ice kept very well. Squid, which arrived about June 21—a remarkably early date—was highly welcomed by the fishermen, and in four days they stored eleven hundred pounds of it in the freezer. It is a well demonstrated fact that cod and haddock show a fondness for frozen squid which is largely preferable to the freshly caught one, supposedly from some peculiar flavour imparted by the ice. This is hardly to be believed. Lobster also seemed to follow this inclination as the traps baited with frozen herring yielded much better than those with fresh cod offal as an allurement. With these actual results in view, the fishermen cannot but appreciate the numerous benefits which are largely profitable to them. The only force which baffled the lobster trapper against making a successful year was the heavy north-easterly gales, which raged in the latter part of May and in the beginning of June, and in which heavy damages were sustained chiefly on the third, fifth and seventh of June. When the storms had abated, the sea was literally strewn with wreckage. Many of the trappers had to build traps anew which with their general gearing, necessitated not a trifling expense. As to the manner in which the lobster industry was conducted throughout the season, it is quite probable that at the close, these trappers were left unburdened. With all the natural forces impeding the successful capture of fish, the fishermen had one great satisfaction devolving upon the ever present store of bait at hand. Whenever the supply could not be got at sea, they had recourse to the freezer where a full quantity always awaited them. August 20 brought the ravenous dogfish on the coast—the most destructive enemy of the fishery kingdom. It would be useless to dwell at some great length on the subject, and I will confine myself to saying this:—'If the Canadian Government does not amply provide for its early annihilation, our Canadian fisheries are doomed to suffer tremendously.' Meanwhile, it may not be amiss to state that the Americans have devised a way to clear them off their vessels whenever bothered. They capture four or five of them and apply

certain apparatus on their bodies arranged in a mechanical sort of way and let them go into the water again. These prisoners terrified at the manner in which they are fixed, struggle fiercely in endeavouring to free themselves—lashing the water angrily and causing disorder and terror among the shoal. In less time than it takes to write this, an American vessel is entirely cleared of dogfish for miles around.

Owing to the enforcement of government restrictions as to the setting of nets in Little River, little was done in the salmon fishery at that place. The overseer and his staff of guardians acquitted themselves with special vigilance, and the industry was well protected. A few professional anglers, however, skirted up and down the banks of the river in the latter part of the season. Those netters who were well provided secured fair catches at sea. I notice that salmon of late years has fairly enhanced in quality and weighs well. As in the case of herring, there are at least two separate and distinct species. So far as I am aware, poachers were quite unknown this year. By the estimate given in this report, you will see that the mackerel fishery is practically extinct. It was once abundant upon our shores, and was a well paying industry. No real cause is assigned for its abandonment except the general belief that the use of American seines together with the arrival of dogfish upon the shore have been largely instrumental in scaring off the fish, and causing it to abandon the inshore waters of the gulf. I will remark here that one horse-mackerel was captured at L'Etang de la Ferme. It gave two men all the sport they wanted. After the prize was taken they disputed as to who was the real captor. Finally comes the smelt fishery. Smelts have again suffered a general disturbance when the spawn season has arrived, but not quite so bad as in the former years. The powerful fecundity of this fish, I believe, largely compensates for the yearly destruction of both fish and eggs, as I notice that the quantity going up Plateau river each succeeding spring apparently excels that of the previous year. I may say here that the superabundance of last spring was unprecedented. It seems strange to note how slow are the local people in recognizing the large profits to be obtained in the smelt industry. Of all the maritime provinces that of New Brunswick ranks first in the exportation of smelts to the United States markets, and thousands of dollars are annually made. I must admit that Cape Breton Island is behind time in this respect. The extensive and largely profitable trade in cod sounds in many parts of our Dominion is totally ignored by our fishermen from the fact that none of them are saved but serve wholly as a fertilizer. These sound enter largely in the manufacture of glue and are also a wholesome article of diet. The fastidious gentleman would hardly refrain from becoming a glutton on smelling the hot steam from such a palatable stew. I shall now give in tabulated form an approximation of the total catch of fish at the different stations named :—

## CHETICAMP PROPER.

Codfish . . . . .	6,100 qtls.	Herring . . . . .	400 bbls.
Hake . . . . .	142 "	Lobsters . . . . .	627½ cases.
Haddock . . . . .	260 "	Salmon . . . . .	4,500 lbs.
Pollock . . . . .	35 "	Cod oil . . . . .	2,300 galls.

## CHETICAMP ISLAND.

Cod, hake and haddock..	800 qtls.	Lobsters . . . . .	118½ cases.
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## CAPE ROUGE.

Cod, hake and haddock..	100 qtls.	Lobsters . . . . .	190½ cases.
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## GRAND ETANG.

Cod . . . . .	1,410 qtls.	Salmon . . . . .	8,000 lbs.
Haddock . . . . .	111 "	Mackerel . . . . .	600 "
Hake . . . . .	21 "	Herring . . . . .	325 bbls.
Pollock . . . . .	38 "	Lobsters . . . . .	300 cases.
Cod oil . . . . .	1,000 galls.	Dogfish oil . . . . .	400 galls.

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## PLEASANT BAY.

Cod.....	110 qtls.	Herring.....	2 bbls.
Hake.....	15 "	Mackerel.....	40 "
Haddock.....	15 "		

The above figures in cod, hake and haddock represent the quantity received by the different merchants. About three hundred quintals of same were shipped by fishermen to local markets.

## DIGBY, N.S.

*Reporter : Mr. J. M. Viets.*

This season has been a very trying one for the fishermen in this locality. The spring and fall were very stormy and vessels were unable to visit the grounds as frequently as desired. However, the fish dealers seemed to have held their own well and did not complain to any extent.

*Cod* appeared on May 2, in fair quantities, and remained so until the 22nd, when stormy weather was reported. Fair catches were made in June on the 2nd and 3rd, and poor after to the 11th. From now until the 25th, the fare of cod varied from fair to poor, as the troublesome dogfish were on the coast. The fishing was again retarded by inclement weather to July 2, from which date to the 16th, when dogfish was reported interfering, the fishery varied from good to fair. Light but regular catches were reported daily during August, and for the remainder of the season when the weather permitted. Season's catch estimated at 616,000 pounds.

*Haddock.*—Small fares of haddock were taken in May to the 19th, when the first fair report was received, and again in June on the 11th, 14th and 16th. The July catch varied from fair to poor, and that of August was light. From September 13 to October 15, the fishing was on an average fair. Total catch for the season was about 681,000 pounds.

*Hake.*—Fair reports of this fishery were received in May from the 5th to 8th, and again on the 19th and 22nd. The June catch was small to the 23rd and 25th, when fair catches were made, and from good to fair hake fishing was reported in July. Hake plentiful was reported each day in August, which continued the same to September 18, when from fair to poor reports were received to the close of the month. The October fishing was fair daily to the 15th. 2,200,000 pounds of hake were taken during the season.

*Halibut.*—The only report of halibut received was on May 21, when the fishing was fair. About 8,000 pounds were caught this season.

*Herring* were not reported this season, but about fifty barrels were stopped at this station.

*Lobsters* were on an average fair from May 2 to 22, when bad weather suspended operations to June 2, with fair catches being made. The lobster fishery was reported in a good condition from the 11th to 25th of same month. It is stated that 'lobsters came in this season better than expected, but each recurring season demonstrates that more men and gear are employed and more ground gone over to keep up the supply, than in each preceding season,'—the result to this delicious crustacean can be easily imagined. The total catch is estimated at 1,000 barrels.

*Mackerel.*—The catch of mackerel at this station and district this season was a complete failure.

*Squid* were reported fair in September on the 13th and 25th.

*Ice* was in good supply in this district throughout the season.



## RETURN showing catch of Fish in Digby district for 1902.

DISTRICT.	Cod. — Lbs.	Hake. — Lbs.	Haddock. — Lbs.	Lobsters — Brls.	Pollock. — Lbs.	Halibut — Lbs.	Herring — Brls.	Squid. — Lbs.
Digby .....	616,000	2,200,000	681,000	1,000	19,000	8,000	50	Nil.
Sandy Cove....	64,000	900,000	850,000	1,000	28,000	.....	.....	.....
Tiverton .....	1,821,000	3,686,000	875,000	1,000	1,084,000	20,000	1,700	.....
Freeport .....	1,457,000	394,407	403,632	980	749,244	.....	.....	.....
Westport.....	615,000	256,000	341,000	693	1,960,000	47,000	370	10,000
Totals .....	.....	.....	.....	.....	.....	.....	.....	.....

## PRINCE EDWARD ISLAND.

## ALBERTON.

*Reporter : Mr. David Montgomery.*

*Codfish* of an unprecedented large size were reported on trawls early in May about the 3rd and during the balance of the month and in June large quantities of cod were taken at this station and other portions of the district such as Waterford, North Cape, Tignish and Kildare. About the middle of June, cod moved off shore, and mackerel having made its appearance the codfishing was partly abandoned. During the remainder of the year, cod were taken at intermittent seasons and some good catches were made, particularly so in September, when very large quantities were on the coast.

*Haddock* were very scarce during the season and very few were reported as having been taken.

*Hake* were reported in good quantities from August 1 to remainder of the season. The catch will show small this season as the fishing was not prosecuted to any extent.

*Herring* struck in at this district early in April and during the latter part of the month, and in May large quantities were taken over the whole district,—in fact throughout the season herring were in greater abundance and much larger catches were taken in the Alberton district than in any previous season.

*Lobsters*.—The first part of the season lobsters gave every promise of large catches but about May 20, gales and stormy weather caused a complete cessation of the fishery, and to June 20, the only favourable days were May 27, June 2, 11 and 20, when fair catches were made. It was reported on the 24th of latter month, that many of the traps and gear were badly damaged by gales of recent date. Weather permitting to close of the season, a few fair hauls were made and the catch this season was much larger than for many years past, and only for above mentioned cause the total catch would have been very large.

*Mackerel* struck in along the coast much earlier than usual and at first promised a recurrence of the old time catch, but our reporter in referring to the fishery says :—When you think you have them (mackerel) they are not there. In the month of May on the 30th, at Tignish, 1,500 mackerel were taken in traps and a few were in nets on June 2. Light fares were reported on the 11th, 12th and 13th, fair on the 26th, and good on June 30. The July catch varied from very good to poor and on the 26th mackerel were reported hooking freely in this district. The fishery in August was fair from the 9th to 15th, and light from 26th to end of the month. Fair reports were received on September 2 and 3, and later in the month, and to the middle of October, good catches of fine large fat mackerel were taken at Tignish, North Cape, Waterford and Nail Pond. Only a few of the fishermen benefited by mackerel being on the coast as the majority of the boats were laid up for the season. However, the takeis con-

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sidered better than for some years past and those who followed up the fishery did fairly well.

*Trout* were taken in fair quantities during the entire season and bait was reported more plentiful than formerly.

## BLOOMFIELD OR MIMINEGASH, P.E.I.

*Reporter: Mr. Edmund D. Kelly.*

*Cod* appeared on the coast about May 8 plentiful, and good catches were reported to the 19th, after which there was a falling off in the catch and fair hauls were made to June 7, continuing the same until the 25th, when boats were averaging about 40 cod. The fishing was very dull in July and August, but on September 16 a general improvement was noticed, and fair fishing was reported from this date to the 26th, and again in October on the 8th and 13th.

*Hake* fishing commenced about July 1, with boats reporting from 15 to 40 fish each; afterwards hake became scarce until fair fishing was reported from August 28 to September 16, when from 30 to 70 and 80 hake were taken per boat. To September 25 some very good hauls of hake were made, and to the close of the season the fishery was fair.

*Herring*.—The herring fishery opened up this season with fair catches from April 20 to May 10. Then there was a scarcity of herring until the middle of July, when a few were taken. Herring struck in along the coast again on September 3, and fair quantities were reported almost daily to the 26th of the same month.

*Lobsters*.—Operations in the lobster industry began on or about May 1, with fair prospects until the 8th, when a severe storm badly wrecked a quantity of fishing gear. There were no catches of any account taken until about the 20th, when the fishery was fair to June 7, with boats averaging from 100 to 300 lobsters. The catch was poor afterwards to the end of the season.

*Mackerel* were first taken this season in fair catches from June 5 to 14, with boats reporting from 50 to 200 mackerel. Some very good catches have been recorded, notably that of one craft on Saturday June 14. The vessel, which is a very large one and fully equipped with a quantity of gear suitable for this fishery, landed 4,000 mackerel at Miminegash, the result of one night's fishing. The smaller craft, with four nets, reported 500 fish. Mackerel commenced hooking about July 7, in small catches, and only from 30 to 50 fish were taken. Very few mackerel were reported during the remainder of the season, excepting from September, 15 to 20, when from 25 to 50 mackerel were taken some days. A few mackerel were used for bait on trawls and during the season bait and frozen squid were in good supply at this station.

## MALPEQUE, P. E. I.

*Reporter: Mr. Jas. M. McNutt.*

*Cod*.—The first catch of cod was taken at this station about May 8, which was 10 days earlier than last season. The catch the first of the season was fairly good, but owing to stormy weather after August 15 the fares were not as large as at the opening of the season.

*Herring* struck in about April 20, and good stops were made to the latter part of the month. From May 1 to 15 herring were taken in catches varying from good on the 3rd and 4th, to fair on the 5th, 7th and 15th. The total catch was small.

*Lobster* fishing began about five days in advance of last season, the fish being taken first on May 8, in fair quantities. During this month good catches were reported, which continued to June 15, but after this date, owing to heavy winds and gales, a large portion of the traps, gear, &c., were very much destroyed, thereby causing the operations of this important industry to be almost entirely suspended. Total pack is considered not nearly as good as last season.

*Mackerel* were a failure at this station this season. None were taken.

GEORGETOWN, P. E. I.

*Reporter : Mr. Charles Owen.*

*Alouettes*.—It was reported on June 14 that two bankers in port secured sixty barrels of gaspereaux for bait purposes, which were forwarded by rail from Mount Stewart. A considerable quantity of this fish were netted at Tracadie, on the north side of the island.

*Codfish* made their appearance very early in the season and were reported on or about April 15 in fair catches to the end of the month. The codfishing was poor to May 10, and on the 3rd it was reported that eleven bankers procured bait here to date, and a large fleet sailed from this port with Magdalen islands as their destination, where herring were said to be very plentiful. From the 12th to the 20th the codfishery varied from good to fair on trawls, but owing to unfavourable weather the last of May cod were scarce. A continuation of bad weather the early part of June prevented fishermen from attending the fishery, although cod and haddock were reported plentiful. Codfish were plenty inshore on the 14th, and some boats had fair hauls with handlines. Off Panmure Island and Grand River on the 23rd fair fishing was reported, and on the 28th the fishing was the same in the vicinity of Cape Sharpe and Panmure Island. In July, from the 4th to 8th, codfish were fair and scarce until they appeared plentiful offshore on the 14th and 15th. Dogfish came on the coast in August and were very destructive to bait and fish on trawls. Large quantities of codfish were off Rustico and north shore of the island on the 27th, and good catches were taken, and several vessels belonging to the westward of Halifax sailed for home with their fares. September 1 good numbers of cod were on banks off Souris, and on the 8th a similar condition prevailed on the north side and East Point, with good hauls being made when the weather permitted. The schooner *Milo*, of Lunenburg, arrived in having 1,200 quintals and reported good codfishing off Bonaventure, but was obliged to leave the ground owing to stormy weather. The captain set trawls off Miminegash and found fish plentiful. It is reported that cod were abundant on banks from August to November 30, and the average catch per boat for the season is said to be 200 quintals of cod, haddock and hake.

*Hake* were reported on July 21 plentiful with bait scarce, and light catches were taken the remainder of the season to September and October, when some good fares were reported at Fisherman's bank.

*Haddock*.—Light catches of haddock were reported May 17, which continued until June 7 and 14, when the fishery was said to be good inshore with boats doing fairly well with hand lines. On July 7 cod and haddock were reported plentiful, but there were no boats from this station especially engaged in the fisheries any distance off shore. The catch was small for the balance of the season.

*Herring* struck in at Cardigan bay about April 7 and fair catches netted from one-half to one and a half barrels to the 26th of the month, when the fish moved off and the fishery became poor. An occasional catch was taken in May, and on the 5th herring bait by fishermen's net was reported at Panmure island. Light fares were taken in June, which were utilized for bait, and on the 27th the fishery was fair with nets averaging about 100 fat herring at Panmure island. Fair stops of herring were made on July 4 and 5, with some nets reporting one-half barrel each, and on the banks the netting was fair between the 1st and 7th. For the remainder of July the catch was light, and from August 1 to 15 fair catches were reported at Pictou island and Burnt point. Several vessels operating in the same locality where herring were in abundance, about two weeks later made fair stops and on the 22nd one-half barrel per net was taken off Panmure island. It is reported that 400 barrels of herring were netted off Pictou Island in August. The first week in September was so stormy that several schooners engaged in the herring fishery at Pictou island were compelled to seek shelter early in the week, and those that returned to the Island after the storm abated reported on the 20th that herring were in fair quantities, but owing to the presence of dogfish, the fishing will be discontinued as this voracious creature had completely stripped the trawl hooks of bait. During October and November herring of medium size were plentiful in the bays and rivers, with nets reporting as many as four barrels each. The estimated catch for the season is about 5,000 barrels.

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*Lobsters* were reported varying from good to fair on April 26, with the catch averaging four pounds per trap, and on May 10 it was reported that the daily catch was from 400 to 600 pounds per boat. To June 15 good quantities were taken, but the fishing was poor afterwards for the balance of the month, and from July 14 to end of the season the fishery showed a marked improvement. The number of lobster boats attached to the several factories located between Launching bay and Cape Sharpe number about 120, and the season's output of these canneries is estimated at 5,000 cases.

*Mackerel*.—The catch for this season is considered nil. Several schools were observed in July off Panmure island, but no quantity was secured. On the 21st of same month mackerel fishing was reported good at Kelly's Cove and off East Point. A few were occasionally netted with herring and disposed of fresh for bait. It is said there has not been a barrel salted this season, the reason given is that the constant moving of lobster gear, traps, &c., in this vicinity prevents mackerel from coming into the bays and inlets.

*Squid*.—Large quantities of squid were taken on July 25 and August 6, and on September 1 squid were reported plentiful on the banks off Souris.

*Dogfish* were again in evidence this year, and during the latter part of the season several branches of the industry were discontinued owing to their large numbers on the coast, which were very destructive to bait on trawls.

## NEW BRUNSWICK.

## CARAQUET, N.B.

*Reporter : Mrs. E. M. C. Blanchard.*

*Cod* appeared on the coast on May 9 in fair quantities and it was reported that nothing was done in this line since this date owing to heavy gales, which damaged many of the fishing boats. Bankers arriving on the 13th reported an average catch of twelve quintals, and on the 24th codfish were very plentiful. Bait inshore was in good supply during June and July and the catches were correspondingly good, with codfishing varying from very good to fair during August and September. Several bankers, on September 15th, arrived in port, after being on the fishing grounds for two weeks, reported for sixty quintals, and in October good fishing was reported on the 4th, which improved to very good four days later. Our reporter says: "The codfishery opened out very good and continued satisfactory part of the season, but bait being scarce on the banks in July and August, the catches were about the same at last year." Some boats averaged from 550 to 600 quintals the past season, and it was reported on November 15 that during the past week, though late in the fall, boats were out codfishing and caught a few quintals of very large fish.

*Herring* were very abundant this season in May, and the first catches were reported in April, a few days earlier than last season. The fall run of herring was very poor and is considered less than that for the past two years.

*Lobsters*.—Good catches of lobsters were reported the first week in May, which increased to very good on the 8th and 9th. In June lobsters were very plentiful on the 4th, and fair on the 12th and 28th. The fishery is considered good the past season in this vicinity and catches better than last year, though the heavy storms during the season caused great damage to the traps and prevented fishing at the time.

*Mackerel* were reported plentiful on August 4 and fair September 9.

*Salmon* were very scarce at this station this season and were only reported when salmon were taken in light catches on July 5.

*Squid* were reported very plentiful July 19 to 20, and plentiful on September 29.

*Clams* were plentiful during the season and were used for bait.

## GRAND MANAN, N.B.

Reporter : Mr. Charles Dixon.

*Codfish* appeared on the coast in very large quantities in May, and notwithstanding the weather conditions were very much against fishing operations, during the week of the 5th, very good catches were made on the bulk-head on the 7th, which continued to the 17th, with vessels averaging from 15 to 30 quintals. Bad weather was again on the coast the latter part of this month, excepting Saturday, the 24th, when fishermen operating on the bulk-head made a catch of four quintals per vessel. High tides were the cause of light fares the first part of June, but good hauls were reported the second week and fairly good fares for the balance of the month. The catch of cod on the bulk head on July 5 was about 25 quintals per vessel, which showed an improvement the following week, with crafts averaging from 40 to 60 quintals, the fares of which were partly mixed with pollock. The codfishery continued very good until fair reports were received on the 26th, and the same was reported to the middle of August, after which line fishing was very dull in this branch for the balance of the season, which is 200 quintals in advance of the previous year's catch, the total catch aggregating 1,000 quintals for 1902. About 100 casks of cod oil were put up during the season.

*Hake* were first reported striking in when in fair quantities at North Channel on June 6, and boats were getting from two to three quintals per day, with from four to eight quintals being taken on the 14th. Fair fishing was reported at Swallow tail from the 17th to 21st, inclusive, and at North Channel on the 24th, very large quantities were reported. Towards the latter part of the month boats reported for five quintals. In July the fishing was fair the first week, and on the 12th, in the North Channel crafts containing two men averaged per day six quintals. A few light fares of hake were reported on the 23rd and 24th in the channel and off Swallow-tail, and the fishing was poor after to the 31st. Hake were scarce in August, excepting on the 21st and 22nd, when catches were made in the channel. Fair hauls were reported at Swallow-tail on the 25th and fair again in North Channel on the 27th and 29th. Total catch for this season was 2,000 quintals, which is 700 quintals more than that taken in 1901 and 2,100 pounds of hake sounds were cured for market.

*Haddock* were reported on the shores on June 14, but not very plentiful, and during the week of the 9th, boats were averaging daily from four to eight quintals of hake and haddock in North Channel. On the 28th it was reported that boats were getting five quintals of mixed fish, hake and haddock, with the catches small for the balance of the season. About 700 quintals of haddock were taken this season.

*Halibut*.—It was reported on May 17, that halibut had been very plentiful and one boat caught 500 pounds in a days fishing. Fair fishing was reported on the Bulkhead on the 23rd and 24th, and in June on the 14th, a report stated that a fare of 14 halibut was made by one vessel during the week, with fair accounts from the Bulkhead to the end of June. The first week in July, one craft had 500 lbs., and the following week two small boats operating on the bulkhead landed each 400 pounds. Light fares were taken after to August 5, when the fishing was fair at South-head reef. From Flagg's cove on the 15th of same month came a similar report, after which the halibut fishery became poor for the remainder of the season.

*Lobsters* were first reported very plentiful and fair at Seal Cove in May on the 10th and 12th respectively. Fair fishing was reported at Grand harbour on the 13th and and very good at Big Duck island on the 15th. On the 17th it was reported that the fishing had been a very good catch at Big Duck island but was getting poorer at Seal cove and Grand harbour. The pack of lobsters this season was 90 tons or cased in tins would represent 2,000 cases, the output of The Burnham, Morrill Co., of Portland, Me., and Ingersoll Bros., of Grand Manan, 6,000 cwt. of fresh lobsters were exported to the United States.

*Herring* were first reported as having been caught at Dark harbour on May 7. Good quantities were in the same locality on the 10th, and on the weirs on the 12th. Large numbers were taken. A good supply of bait was reported at Dark harbour on the 31st, and a few stops were made at the same point and at Campobello island the

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first part of June. The fishing declined somewhat rapidly after and became so very poor that vessels were compelled to visit Campobello island and various sections of Nova Scotia, to obtain bait to follow up the fishing industry. Small herring were reported at Quoddy on June 21, and in the weirs at Campbell's island on June 28, with a great scarcity of herring for bait all around the islands. Good netting was reported on the soundings the week of July, some vessels reporting as high as 25 barrels per day. In the weirs at Seal cove, Grand Harbour and Long Island very good catches of large herring were made on the 26th, and on the same day net fishermen were reported doing very well in their line at Swallow tail and Whale cove. The report of August 2 was to the effect that those who attended this fishery netted a good many herring at Whale cove and Swallow-tail and the weirs at Grand Harbour, Seal Cove and Long Island Bay were quite full. Very good herring fishing was reported on the 9th, at all portions of the islands both in nets and weirs and the incoming week had herring in weirs at Big Duck island and good net fishing at South-Head. There was no netting reported the latter part of August but the herring caught was taken in the weirs at Big Duck island. The catches were light after and it was reported on September 10, that herring have been keeping away from Grand Manan waters as at this time last year our weirs had been doing well, where they are not taking any fish yet. The weirs at Long island and off Woodward's cove and above Cow passage and Cheney's passage are doing well now, but at Grand harbour, Two islands and Seal cove, below these passages, the weirs are not taking any herring at all; none in nets either lately. On September 24, the line fishing was reported very dull the past few days; the fishermen all netting herring. Very good netting of herring was reported this week in Long Island bay and the weirs at Seal cove. Stops were made also at Grand harbour. This season about 8,000 half-barrels of pickled herring were put up at this station and 10,000 barrels, or 50 per cent of last year's catch of fresh fish were exported to United States. 1,500,000 boxes of herring of medium size were smoked, and about 3,000 boxes of smoked kippered herring were packed similarly to smoked herring. The kippered herring factory at the Station canned 4,000 cases during the past season.

*Pollock* were reported plentiful on the rips on May 10, and during June a few light fares were made. On July 12 it was reported that vessels fares were composed partly of cod and pollock. Good catches of pollock were taken on the 19th in the vicinity of the Bulkhead and the following week saw the pollock fishery extra good, with the catch in August a good average. Season's catch about 6,000 qtls. which is 2,000 qtls. more than last year.

*Dogfish* appeared on the coast in July and remained throughout the season, in very large quantities.

## SHIPPEGAN, N. B.

*Reporter: Miss Marie Landry.*

*Cod.*—From the receipt of the first report on May 10, when a catch of 200 cod was made, until June 27, codfish were on the coast in very large numbers and some excellent hauls were taken. On the 20th it was reported by the few craft that attended the fishery and did very well, that from the appearance of cod on the shores, the prospects were good for the summer's fishing. The following week some boats arrived with 'flags flying' (which betokens a very successful trip), with a fare of 4,000 cod and others from 2,000 to 3,000. Boats reported on June 3 that the last week's fishing stocked from 1,000 to 1,500 cod. The July fishing varied from good to fair, with catches on the average, and during the month of August some good fares were taken. The 23rd, the codfishery was said to have been good in the neighbourhood and some schooners secured over 3,000 fish, with the fishing boats averaging from 600 to 1,500 cod, and very few vessels returned without their 'flags up.' To the 15th, the codfishing was reported very good, after which stormy weather prevented successful operations. Although this fishery has been fairly successful, the average, together with the haddock fishery, is a little below that of last year, the catch being estimated at 12,000 quintals of cod and haddock.

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*Halibut* were reported in light catches during the month of August, and on the 19th it was reported that about fifty were taken the past week, one of which was over seven feet in length and weighed 300 pounds. Those taken during the season were shipped in ice by rail.

*Herring* were reported in very large quantities on May 1 and 2, when about 350 barrels were stopped, and on the 5th and 7th, when herring were plentiful, 160 barrels were taken. It was reported on the 10th that 100 barrels were the result of three day's fishing. Very little was done after until July 21, when about fifty barrels were taken for the week. One hundred barrels were reported on August 11, and on the 18th, 250 barrels were the catch, with 200 barrels on the 25th. The fishery was very good in September and to the 15th; several schooners on the grounds for the past two weeks reported for 100 barrels, others from fifteen to forty barrels. Total catch about 20,000 barrels.

*Lobsters* opened this year with good prospects, as they were reported very plentiful during the month of May and some excellent catches were made. The daily fares varied from 5,000 lobsters to 40,000, from the 1st to the 11th, and from the 19th to the end of the month, from 4,000 to 5,000 and over. The June fishery was reported fair on the 19th and good on the 25th and 26th, with lobster boats averaging 400, and on the latter dates from 300 to 800 fish, owing to rough weather. To the close of the season the catch was on the average fair, and boats had from 200 to 800 lobsters. There were about twenty-four factories in operation along the Shippegan and Miscou coast the past season, and the total pack, which was a very good one, is estimated at 10,000 cases.

*Mackerel* first appeared on the coast in August, and on the 18th it was reported that mackerel were very good outside, but the inshore fishery was poor. About 150 mackerel were caught the past week and as far as reported after, the catches were light. The mackerel fishing, although considered not very good, is better than last season by 140 barrels, as 200 barrels was the total catch for the season, which was shipped fresh by rail and found a ready market in the United States.

*Salmon*.—Good salmon fishing was reported from May 10 to 28 and in June from the 19th to the 26th, with fair fishing in July on the 12th. The fishery has been considered fairly good and during the season about 1,200 salmon were taken, which were exported frozen by rail to the United States.

*Smelts* made a good appearance this season.

*Clams* were in very good supply throughout this season and were very much in evidence as bait this year. Many of the families at this point made a profitable business in this industry during the season, as clams were used quite extensively for bait throughout the season.

## PROVINCE OF QUEBEC.

### GRAND RIVER, QUE.

*Reporter: Mrs. John Carbery.*

*Caplin* appeared about May 20, but the fish were reported scarce, and the run only lasted to June 15.

*Cod* were reported plentiful in May, both inshore and on the banks. The first catch, on May 5, was fair, and the fishing was the same as on the 12th. Codfish appeared plentiful on the 16th, 17th and 19th, and the following four days very good hauls of cod were made. On the 31st one arrival from the banks reported for 25 drafts, and the fishery in June varied from good to poor, with the July catch somewhat better, from very good to scarce. After August 16, the catch of which was on an average good, rough weather set in and very little was done in this industry for the remainder of the season. Although dogfish were on the coast in troublesome numbers this season, they did not appear in such 'swarms' as in past years.

*Herring* were first taken on the coast in fair quantities for one month, from April 15 to May 15. The fishery varied from good to fair from the 19th to 23rd, after which

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herring were scarce until fair reports were received on June 7. From good to fair stops of herring were made in July and to October 1, when the fish were reported striking in again; an occasional catch was taken.

*Lobsters* came in along the shore early in April and were taken in fair quantities for about six weeks, afterwards operations were almost suspended, owing partly to stress of weather.

*Mackerel* have again become very scarce at this station, and no reports were received of any mackerel being caught during the season.

*Salmon*.—The salmon fishery this season has been considered poor, attributed to bad weather, which damaged the nets considerably. The run of salmon during the season was small.

*Squid* appeared in July, but were scarce after until they reappeared late in the fall, at a period of the year that they could have been easily dispensed with, the season for their use being nearly over.

## L'ANSE AUX GASCONS, QUE.

*Reporter : Mrs. A. E. Brotherton.*

*Caplin*.—Fair catches of caplin were made each day from June 12 to 14, but the catch for the season is considered a poor one.

*Cod*.—Light quantities of codfish were taken the first four days of May, until the fishing had improved to very good on the 5th, and good on the 6th. Fair hauls were made to the 14th, when cod appeared plentiful, and to the end of the month the catches varied from very good to fair. In June and July the fishing was reported from good to fair, and in August and September rough weather as well as a scarcity of bait have been a great hindrance to successful fishing. Although dogfish were troublesome in October, codfish were taken in catches to the 13th, varying from good to fair. The codfishery was considered very good at the beginning of the season, and all those engaged in this industry were perfectly satisfied with their season's work, there being about 9,000 quintals of codfish taken during the season, which is 1,000 quintals in advance of that of last year. Nearly the whole season's catch was shipped by vessels to the Halifax market.

*Herring* appeared on the coast in good numbers in May, on the 1st, 3rd and 5th, and to the 26th of the month from good to fair stops were taken. Herring were scarce after until June 3 and 4, when fair reports were received, and very light catches were taken daily to July 2, on which day good numbers of herring were on the coast, and fair the 8th and 9th. During August and September the weather was anything but fine, and in the former month the herring catch was reported from very good to poor, and that of October from good to poor. The herring fishery during the past season has been considered on the whole a very good one. With the exception of what was used for bait, large quantities of herring were shipped to the various markets.

*Lobster* fishing commenced with fair prospects the first part of May from the 1st to 5th, which increased favourably to the 9th, when good fares were taken. The catch to the 24th was, on an average, fair and scarce after until the fishing was fair on June 3 and 4. To the close of the season very light catches were reported. The lobster fishery was better than that of 1901, and the season's pack was 100 cases in excess. Three hundred cases were put up in this district and were forwarded by vessels to Dalhousie.

*Salmon* were reported each day in fair quantities from June 13 to 20, and the catch for the entire season, which is about the same as last year, is considered a good one. Dalhousie, N.B., was the market for about 9,000 pounds of salmon, shipped in ice, during the season.

*Squid's* first appearance on the coast was in August, when fair fishing was reported on the 16th, and again on the 27th, 28th and 29th. In September, from the 12th to 27th, squid were along the shores in numbers varying from very good to fair and in October the conditions were the same from the 2nd to the 13th.

*Dogfish* were reported on the coast and troublesome in October.



## NEWPORT POINT, QUE.

*Reporter : Mrs. Meunier.*

*Caplin* were reported only in June, with fair catches on the 13th and 20th, and very good on the 14th, 18th and 19th.

*Cod* were on the coast quite early this season, and were reported fair off shore on May 3, with very good quantities in-shore on the 5th. There was no fishing after, on account of strong winds, until very good hauls were taken on the 9th, and from the 12th to the 31st the off-shore fishery varied from very good to fair. Bankers returning on the 17th reported from eighteen to thirty drafts, and on the 22nd from eighteen to twenty-four drafts, with codfish very plentiful inshore on latter date. In June the in-shore fishery was poor to the 7th, when the codfishery was reported very good and the fishing off-shore from very good to fair from the 2nd to 20th. On the 14th, from twenty to thirty drafts were reported by bankers. The latter part of June the weather was very disagreeable and there was a scarcity of cod to July 1, when the fish appeared in fair quantities. The July catch off-shore varied from very good to poor, and on the 7th it was reported that the in-shore codfishery was poor owing to bait being scarce. From twenty to forty-four drafts were taken by bankers on the 26th, and from sixteen to thirty-eight drafts on August 23. For the balance of the season codfish were reported in catches quite regularly varying from good to fair. Total catch for the season estimated at 10,000 quintals, which is 3,300 quintals better than that of last year, and only 800 quintals below the quantity taken during the season of 1900.

*Herring* appeared in very large quantities on May 1, and fair the 2nd and 3rd. Very good stops were made on the 5th, and from the 12th to the 16th, inclusive, herring were reported fair. The fishing varied from very good to good from the 19th to 25th, and fair on the 31st, owing to stormy weather. The catches in June were on an average fair, excepting those of the 18th and 19th, which were very large fares, and in July fair fishing was reported on the 1st, 5th, 9th and 14th, good on the 24th and very good on the 25th. Fair fishing was also reported in August on the 8th and 16th. Herring were plentiful in-shore in September on the 9th, and on the 12th, 16th and 20th fair fishing was reported. Total catch for the season, 2,000 barrels, which is on a par with that of 1900.

*Lobster* season began on May 1, very satisfactorily and some excellent catches were made during the first part of the month; and from the 12th to the 31st, lobsters were reported almost daily on an average fair. The last report received was on June 4, when light catches were taken. Total catch was 600 cases, or 100 cases less than the catch of last season.

*Salmon* fishery was reported in fair catches on May 20, and again on June 6, with very good on June 14.

*Squid* appeared in August with fair fishing on the 8th, 9th and 30th and good on the 27th. From September 1 to remainder of the season, squid were in catches varying from good to poor.

## PASPEBIAC, QUE.

*Reporter : Miss Ada Beck.*

*Caplin* were caught on the coast about the middle of May, in very light quantities, which increased to good in June and became scarce after to the remainder of the season.

*Cod*.—A few codfish were first taken this season on May 9, with increased quantities to the latter part of the month and throughout the season, especially towards the end, when the fishery was continued.

*Herring* were reported the first week in May plentiful and light from the 16th to 23rd. Nothing was reported after until the fishery was fair on June 21. The July catch was a poor one with scarcity of bait being reported to the 23rd, 25th, 30th and 27th, on which dates in August the fishing was fair the first three and good on the last. Very good catches were reported at intervals to close of the season.

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*Lobsters* were reported very scarce throughout the entire season.

*Salmon*.—Fair catches of salmon were made during the month of May, with the fishery in June varying from good to fair, and for the remainder of the season the fishing was light.

*Squid*.—Bait was very scarce at this station during the early part of the season and squid was only reported when a few were taken in the month of September.

PERCÉ, P.Q.

*Reporter : Mr. E. G. Tuzo.*

*Cod* struck in at this station early and abundant and remained so during the summer months, afterwards gradually lessening to the close of the season. Scarcity of bait at this locality was a drawback to this fishery, which was reported in a reduced catch.

*Herring* were reported on May 1, in fair quantities, after which the fishing improved somewhat, and the first part of spring herring were said to be in great abundance. The summer run was considered poor, but late in the fall herring struck in abundantly and good stops were made.

*Lobsters* were in fair supply May 2 and good on the 3rd, afterwards varying in catches from good to poor to the end of the month, and from fair to poor in June from 1st to the 20th. The catch has been considered fairly good the early part of the season but rough weather prevented a further prosecution of the fishery later in the season as well as destroying many of the traps.

*Squid*.—Although this fish was on the coast in quantities varying from good to fair, at intervals during the season the catches were considered poor.

PT. ST. PETER, QUE.

*Reporter : Mrs. E. Bond.*

*Cod* made its appearance on the coast about May 1, in fair quantities, and the few boats that were out on the 10th averaged 3 drafts. Very good fishing was reported on the 22nd, 23rd and 24th, and from these dates to June 8, very good to fair fishing was reported. Cod were very plentiful from the 11th to 21st, and one boat had a catch of ninety-seven drafts in seventeen days, with arrivals from banks with seventeen, eighteen and twenty drafts per boat. Bankers on the 21st reported twenty-five, twenty-six and twenty-seven drafts per boat in one and a half day's fishing. The fishery gradually slackened off until the first part of July, when good quantities of codfish were on the grounds, but catches were light, owing to the scarcity of bait. The August catch varied from very good to poor, and the fall fishing is said to be a partial failure, owing principally to rough weather. The total catch this season is considered fully 10 per cent less than that of last year.

*Herring* struck in fair numbers on May 1, and during the month herring were reported from good to poor. The catches during June and July were about the same, and in the latter month some very good stops were made on the Banks. Herring were reported in fair catches in October, and throughout the season the fishermen were able to salt sufficient for local consumption, as well as securing a quantity for bait.

*Lobsters*.—The first report of lobsters, received May 1, indicated fair fishing, and from the 3rd to the end of the month the catch varied from very good to fair. High winds and stormy weather prevailed in June, and only fair catches were made at intervals. The factories closed earlier than usual, but the catch on the whole is estimated to be better than that of 1901.

*Mackerel*.—The only catch of mackerel reported in this locality was on July 16, when a light stop was made, none of which was salted.

*Salmon* were first reported May 22, and again on the 24th, when a few made their appearance, and on the 31st the fishery became fair, which continued the same from

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June 12 to 20. For the remainder of the season, excepting July 5, when the fishing was fair, salmon were scarce. The total catch is reported smaller than last season's.

*Squid* struck in along the coast about July 14, in fair quantities, and although regular fares were made in August and September, the quantity taken was not sufficient to meet the local demand.

The above information respecting the fisheries was furnished by Miss D. A. Buckley, who received the appointment of telegraph operator at this station, vice Mrs. E. Bond, deceased October 8.

## SEVEN ISLANDS, QUE.

*Reporter : Mr. P. E. Vignault.*

*Caplin* were only reported this season, when they appeared for a few days the first part of June.

*Cod* fishing began about June 12, in light catches, but the codfishery in July, August and September, was reported very good. From September 20 to October 15, rough and stormy weather impeded the prosecution of good codfishing. The season's catch is considered one third better than that of last year, which was twice as good as the 1900 catch.

*Herring* were not reported this season.

*Salmon* first appearance was the latter part of May, and from June 2 to 12, good fares were made, after which the fishery became poor, owing to the roughness of the weather. The salmon fishery this season is considered about one half of last year's.

*Squid* struck on the coast very plentifully in August, on the 14th, and were reported such to the 25th. In the succeeding month, from the 9th to 27th, squid were in numbers which ran from very good to good.

*Launce*.—Fair quantities of this fish were taken on June 10 and 12, but in July very good hauls were made, which continued to August 20.

*Mackerel*.—No mackerel was reported in this division during the season.

The above report covers the fisheries prosecuted at this division, which includes Aguanus, Caribou Islands, Little River, Moisie, Pentecost, St. John's, Ste. Marguerite, Natashquan and Sheldrake Rivers. At every point of this division codfishing was good and would have been exceptionally so, only inclement weather was experienced rather too frequent from the latter part of September to the end of October.

## STE. ADRLAIDE DE PABOS, QUE.

*Reporter : Miss Christina Mauger.*

*Caplin*.—The only report of caplin received was on June 10, when fair quantities were on the coast.

*Cod* were reported on May 3, 5, and 7, in fair catches and from the 9th to the 24th of this month, cod were very plentiful, with boats from Banks reporting for from fifteen to thirty-five drafts, and the inshore fishery from three to eight drafts. Bad weather was experienced on the coast occasionally until the 18th, when reports from bankers gave boats averaging fifteen to twenty-five drafts and three to six drafts inshore. On May 31, it was said, that the codfishery was poor on account of stormy days on May 25, 26, 27, 28 and 29, but good fishing was reported on the 30th and 31st. The June and July catch to the 26th, varied from very good to fair and the first week in June some boats got from two to five qtls. inshore and from ten to fifteen drafts on the Banks. The following week very good catches of cod were taken and boats averaged from fifteen to thirty-two drafts, the result of two days' fishing on the Banks. Notwithstanding bait was reported scarce the latter part of June and the first of July, boats secured on the 13th of latter month twenty drafts. Codfish were reported very plentiful on the Banks on July 26, and boats that were fortunate in getting a supply of squid, which struck in along the coast made from twenty to thirty drafts. The August and September catch varied from good to poor with best boat from fifteen to twenty-five drafts on August 30,

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the only day of that month in which codfish were plenty; and in September owing to stormy weather boats averaged from twelve to fifteen drafts on the Banks, with the inshore fishery a poor catch. During the remainder of the season, the catch was light owing to the inclemency of the weather, and it is said that boats averaged 200 qtls. to August 15. The total catch is considered a good one and is better than that of last year.

*Herring* were first reported on May 1, in small quantities to the 9th, when very large schools of herring were on the coast, afterwards becoming scarce on account of stormy weather until the 15th, from which date to the end of the month, herring were reported in catches varying from good to fair and to the close of the season from fair to poor. None were salted during the season.

*Lobster* fishing from the beginning of the season to May 5 was very good and fair afterwards to the 24th. From now to June 2, the lobster fishery was not prosecuted to any extent owing to the roughness of the weather along the sea-coast, and for the balance of the season the catches were from good to fair.

*Salmon* were first reported when a few were on the coast on May 15, and on the 20th and 21st light catches were taken. Fair fishing was reported on June 3, 4 and 5 and good on the 6th. The salmon fishery was poor after until good fares were again taken on the 16th, and very good on the 16th. Fair catches were reported on June 19, and July 4 and 7. The net fishing was poor this season, and the total catch is estimated at 16,000 pounds.

*Squid* appeared on the coast on July 21 in fair quantities, and continued in good supply to the last of the season.

## SOUTH-WEST POINT, ANTICOSTI.

*Reporter: Miss Z. Lemieux.*

*Cod*.—Fishing began about May 22, at Heath point and Fox bay in good catches and on the 24th, 26th and 27th, very good hauls were made, after which the fishing was fair considering the unsettled condition of the weather. The fishery in June varied from very good to fair and in July from good to poor with fair reports for the first week in August, as bait was very scarce. The weather was rather stormy for the remainder of August and during the succeeding two months the fishing industry was entirely suspended, owing to unfavourable weather.

*Halibut* were reported at Heath point and Fox bay on May 22, plentiful and fair in June from the 1st to the 6th. Halibut were again in catches from very good to poor from the 12th to the 26th of the same month.

*Herring*.—Light catches of herring were first taken on May 12 and 13 at Fox bay, but on the 15th, herring struck in plentifully and from now to the 31st were taken in catches varying from very good to fair. At Ellis' bay on May 26, herring struck in very plentiful and traps and nets were reported full to their utmost capacity. Bad weather prevented fishing in June, and the only reports received were when the fishery was fair on the 13th and 16th. From July 12 to 31 the fishing varied from fair to poor.

*Lobsters* were taken in light catches at Heath point and Fox bay between May 19 and 24. In June, from the 13th to the 26th, the fishing was only fair, as the weather was very stormy, but the fishery improved in July and from the 3rd to August 2, lobsters were reported in catches varying from very good to fair.

*Salmon*.—Light catches of salmon were taken on June 21, and fair on July 3 and 4. The fish were scarce after until the weather was favourable for fishing, which was about the 22nd, when salmon were reported fair to the end of the month.

*Squid* were not reported during the season.

## MAGDALEN ISLANDS.

*Reporter: Mr. J. A. LeBourdais.*

*Cod* were reported very plentiful the first day of May, and during the first two weeks of the month, very good catches, of large size fish were taken on trawls. Fair to

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poor catches were reported from the 14th to the 26th, on which date the weather was so rough that the fishermen did not visit the fishing grounds. Strong winds prevailed in June and the only favourable reports received were from the 13th to 18th, when cod-fish were fairly abundant on the north side of the islands. Bad weather prevented good fishing in July and only light catches were made during the month, as well as in August, notwithstanding large quantities of the staple product were on the coast. Good fares were taken in September, and the catch during the season was on an average from fair to poor.

*Herring* were first taken around the islands in nets on April 5, and were in large quantities on the coast to the 10th. At Grindstone and Grand Etang on the 12th, good stops were made, which continued the same to the end of the month. During the season large quantities of herring were taken for local consumption, and a large fleet of bankers baited, besides supplying a fleet of strange vessels, that called here for bait.

*Lobsters*.—It was reported on May 6, that operations in this line had not yet commenced, owing to very strong winds prevailing daily, which prevented lobster fishermen from setting their gear. The following week the crustaceans along the shore were reported not as plentiful for the beginning of the season as in former years, but in some localities could be called fair. Good catches were taken towards the close of the month, when the weather was favourable, and a quantity of gear, &c, were reported as having been lost by recent storms. Fair fishing was reported on June 13 and 14 and on the 30th. Loss of gear, traps, &c, and a scarcity of fish was the cause of a number of factories closing for the season. From June 30, until the end of the season, the catches were light. Although lobsters were on the coast the 2nd and 1st weeks of May and July respectively, in good numbers, bad weather again prevented the fishermen from attending their traps, some of which were badly damaged and lost by the heavy seas and gales. The catch this season, has been called fair in some localities and in others a very poor one.

*Mackerel*.—The first spring catch this season was reported on May 19, and mackerel appeared to be abundant on the coast but unfavourable weather interfered with the fishing, so only light catches were made. A few were reported in nets on the 24th and 26th of May but nothing to mention. Large quantities of mackerel struck in on June 9, and the fishermen who had an opportunity of visiting their nets found large numbers therein, but strong winds springing up compelled them to leave the grounds. On May 26, some boats were reported as having done very well, as mackerel struck in schools, but gales of past few days destroyed large quantities of nets and gear, which were already set for this much sought for member of the finny tribe. The first fall mackerel taken by hook this season was caught on July 10, on the south-west side of the islands, a few boats reporting light catches. Mackerel struck in plentiful, on the 18th, in localities on the northern and eastern side, and boats that operated there reported good fishing. Nothing was done in the Pleasant bay district as yet. Very good reports were received on the 28th, from the north-east side of the islands, where mackerel were reported abundant with boats getting good hauls, and very good prospects if weather permits. The weather becoming fine and warm, the fishery was reported on August 11, fair, as the mackerel were not hooking freely. From this date to the end of the month, mackerel were plentiful and the catches good which remained the same to September 10, although the fish were not hooking freely along the coast, particularly in the Pleasant bay district. Prospects for late mackerel fishing were very good this season, which has been considered a very good one, in fact, it has been reported that this fishery was better this season than for many years past. The following dispatch from Grindstone, October 31, to the *Morning Chronicle*, Halifax, N.S., is to the effect that 'the weather during the past month has been very stormy, the oldest inhabitant scarcely remembers a season so stormy. At Etang du Nord, where usually a good deal of fall fishing has been done, the boats are tied up nearly a month. The fishing season just closed has been a very good one, particularly the mackerel fishing. Fish were plentiful and prices were good.'

I have the honour to be, sir, your obedient servant,

A. D. MACKERROW,  
Clerk in charge F. I. Bureau.

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## APPENDIX No. 13.

REPORT ON COLD STORAGE WORK IN 1902 BY SPECIAL OFFICER  
PETER MACFARLANE.

NEW GLASGOW, N.S., December 18, 1902.

To Professor E. E. PRINCE,  
Dominion Commissioner of Fisheries,

SIR,—I beg to make the usual detailed report on the bait cold storage work during the past year.

The following synopsis of the results of operation of the freezers during 1900 is instructive by comparison with the results obtained in 1901. With each freezer, the results for the three years follow each other consecutively.

## FROG POND, PRINCE COUNTY, P.E.I.

*Report for 1900.*

Commenced operations in April, 1900, and has proved a great boon to this fishing settlement. The president of this association, writing about the middle of the past fishing season, states: 'We had the freezer and a good part of the necessary outfit ready in time for the first catch of herring. We filled our freezer to the ceiling with bait, and everything has worked well. Our fishermen commenced drawing bait out of the freezer on May 29, 1900, and have been using more or less every day up to date (June 11). In talking the matter over to our people, I always carefully explained that fresh bait right from the nets was the best; next to that, frozen bait came in. A great many of our men had grave doubts as to the value of frozen bait. Shortly after we had some frozen, we took some of the bait out, put it into water, drew the frost and cut it up. A number of the fishermen examined it and their fears were at once allayed. I am buying in most, or nearly all, of the codfish caught in this vicinity, and am keeping a record of the kind of bait they are caught with. Our fish-books show over one-half of our total catch has been caught with frozen bait. Furthermore, were it not for the constant supply of bait ensured to the fishermen by the bait freezers, not one-half as many people would engage in the business, without the certainty of a constant and sure supply of bait. I feel quite certain that we are on the eve of a new era in the codfishing business around our shores, since the inauguration of the Fishermen's Bait Association.

'One of our fishermen, with 700 trawl hooks, began drawing out frozen bait on June 1, and this man had taken 262 pounds of bait from the Frog Pond freezer on sixteen different occasions. He overhauled his trawls some twenty-four times to date (July 8) and has landed for me 10,404 pounds of codfish, and salted and sold to other people about 1,200 pounds of fish. This fisherman had some nets and procured and used some netted bait. About one fourth of the total catch was made with bait caught in nets, and three-quarters with bait from the freezer. Another of the fishermen who attended a set of box traps had 650 trawl-hooks out and used 295 pounds of frozen bait. He landed 10,064 pounds of codfish, and salted and sold 600 pounds more. All these fish were caught with freezer bait. This fisherman drew bait twenty-one times and landed fish twenty-four times.

'I would give it as my opinion that 1,000 pounds (three shares) of frozen bait would be amply sufficient for the whole of the fishing season for a boat running 1,000 hooks.'

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At the conclusion of the fishing season, in sending in the annual report of the Frog Pond freezer for 1900, Mr. Larkin, the president, further writes :

'Permit me now, at the close of the season's business, to enumerate or place before you some of the benefits derived by our people from having a constant supply of fresh bait. Last year—1899—our cove, with the same number of boats and men engaged in hand and "set lining," took some 95,000 pounds of codfish, hake and haddock. During this season the weather was fine ; we had very few mackerel along our shores, and so the men devoted the greater part of their time to the pursuit of codfish, hake and haddock. A great deal of time was lost in trying to procure a supply of bait. During this season (1900) our men in this cove have landed about 210,000 pounds codfish, hake and haddock. Nine-tenths of all those fish were caught with frozen bait. Men who, in the first season, had not any great faith in frozen bait, kept some nets out. Sometimes they got a baiting, sometimes only a part of a baiting. Those people tested the matter thoroughly, and so satisfied did they become with the frozen bait that they took their nets ashore. We have some very practical and observing fishermen in our cove, and they declare that so long as the supply of frozen bait is to be had, they will not set any nets during the codfishing season ; the supply of bait from the nets, they say, is no better. Again, there is no certainty of obtaining bait every fine day. I might say just here, that we had twelve shares of stock unsold when we met on the 22nd. During the meeting we offered them for sale ; within two minutes they were all taken by fishermen who had a share each before. This will give you some idea of the faith and the estimation which our fishermen have of frozen bait and the benefits derivable therefrom.'

You will observe, on looking over the sheets where a record of bait issued appears, that our fishermen knocked off fishing early this year. The reason for this is that this has been an unusually stormy season. In all my experience, I have never known anything like it. With weather such as we had last year (1899), we could have certainly doubled our catch. Another cause for more fish, codfish, &c., not being taken was that in the month of July and the early part of August, mackerel struck in quite plentiful. Our men paid considerable attention to that branch of fishing at the expense of the other.

I may say for myself that I am more than ever convinced of the benefit derivable from having a bait freezer in our midst.

#### *Report for 1901.*

Tignish, January 6, 1901. At the close of the second year's business of the Frog Pond Fishermen's Bait Association, I am pleased to be able to inform you that our people are now preparing to cut and lay in our stock of ice for the third year's operation. Our fishermen, who have shares in the freezer, and have taken an active interest therein, are more than ever convinced of the value of a stock of fresh bait, available on the instant the weather is fair. I can assure the government that without this freezer a population of over 100 men, almost wholly dependent on fishing for a living, would have been compelled to leave the business and locality but for the assistance afforded by this institution.

I have handled some 230,000 pounds of fish this season ; an increase over last season of some 20,000 pounds, besides this, I judge that our people have sold some 80,000 to 100,000 pounds to other parties. Almost all these fish have been caught with frozen bait.

The excellent results referred to above were attained in spite of the fact that we lost a quantity of our bait in July, owing to an experiment we made of moving half the cooling surface of our freezing room, which we were using as a storage.

#### *Report for 1902.*

This association had an opportunity of putting up thousands of barrels of herring in April last. 1,300 barrels were salted for lobster bait, and 200 barrels frozen for future use. Some parts of the year were very favourable for fishing, and good

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quantities were landed. A part of the time the dogfish were very troublesome, and during October very bad weather prevailed.

ALBERTON, PRINCE COUNTY, P.E.I.

*Report for 1900.*

Commenced operations in May, 1900; ten tons of fresh fish were frozen. The directors did not provide sufficient ice to carry the charge until fall, when the Caraquet fleet, from New Brunswick, made Tignish and Alberton their headquarters. In consequence no decisive results were obtained. Used locally, the bait gave satisfaction

*Report for 1901.*

BY THE REV. A. E. BURKE, PRESIDENT.

Alberton, January 6, 1901. Under all circumstances this association may be said to have done a satisfactory year's work, and to have learned enough to enlarge its usefulness, and in a great measure, justify the hopes of those who designed those institutions for the good of the fishing community.

At the annual meeting the following directors were elected: T. B. Woodman, president; Joseph L. Dyer, secretary-treasurer; Rev. A. E. Burke, Wm. Champion, John Agnew, J. B. Weeks and John McCabe. Those gentlemen gave much of their time and attention to the work, and are deserving of the fullest praise. The ice-house was charged with all the ice it could hold; as soon as the exceedingly mild winter permitted, arrangements were made for a sufficient supply of salt. The necessary improvements which the partial operations of the preceding year suggested, were completed, a good, careful man was secured as manager, and everything got into shape for a thorough testing of the enterprise, as far as its mechanical side went, at least.

Navigation opened in Cascumpec Bay about May 12, but a succession of east winds kept it closed with drift ice until the first school of herring had nearly gone by. A goodly quantity were, however, secured and with extra assistance well frozen, which was a fortunate circumstance for such peculiar weather, and the presence of a cordon of heavy ice off the coast, prevented the fishermen in general from securing, as they hoped, any larger quantities of these fish in the later visitations. Although not in any abundance, the association was able to procure, little by little, quite a quantity of herring from the bay fishermen, and those who follow them outside, later. The shareholders in many cases, put in and took out the amount of bait allowed them by the regulations of the company. After the herring period, codfish and mackerel were frozen and stored; and, later in the fall quite a quantity of codfish put in and reserved for winter trade. The universal verdict as to all this fish, which the managers saw put in, in the very best condition, was most favourable. Indeed there can be no doubt but that properly operated, this institution will freeze the fish readily, and keep it in the best possible condition indefinitely. This is a satisfaction at any rate.

As to the sale of herring for bait, there was no difficulty this year, although in the latter part of the year, squid were plentiful, we were able to sell all there was to be had. The shareholders used their own deposits and spoke in the highest praise of the bait. The New Brunswick fleet of codfisheries took the balance, and praised it exceedingly. This certificate speaks for itself:

'I, the undersigned, do hereby certify that I have used on several occasions, the frozen bait (herring) got from the Alberton Bait Freezer, as codfish bait, and found it in every way equal to the fresh fish. With a sure supply of this bait within reach, all anxiety as to the taking of regular boat loads of codfish and hake, in season, is removed.

CARAQUET, December 1, 1901.

(Sgd.) JOSEPH CHIASSON,  
Captain.'



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It is worthy of remark that the ice harvested for the operation of this freezer was taken from the surface of the harbour last spring. The first year of its operation, it was thought necessary to cut ice on fresh water streams or ponds, and the cost of hauling it was a considerable item of expense. This harbour ice, taken under adverse circumstances, in a bad year for ice harvesting, did wonderfully, and convinced all concerned, indeed, that it is the proper article to secure and use; and the cost is more than half lessened.

*Report for 1902.*

Very little herring were frozen early in the season; those that were proved very satisfactory, and were all used. Quite a quantity of squid were frozen, and good hauls were made in November. That could not have been done without the frozen bait. A fairly successful year on the whole.

SOURIS, KING'S COUNTY, P.E.I.

This is one of the largest sized freezers constructed under the present arrangement with fishermen, and I regret that the experience here has been unsatisfactory. The secretary of this association here writes:—

‘Inclosed I send you a report of the work of the Souris Bait Association, a poor showing, I must confess, yet the case is not altogether hopeless, for we may yet (profiting by our mistakes) see a way of retrieving our losses. This, the first year that the freezer started, was a poor one to get ice, and the herring run was also a failure. Our efforts to sell a barrel of bait frozen would have been crowned with success, were it not for the fact that some of the herring taken by the man sent here from Tignish were not fit to freeze. They were old and spoiled before they were frozen, consequently the bait got a bad name, and the fishermen would not have it.

The freezer has a capacity of fifty tons, and two tons bait were put up. The balance sheet sent showed a deficit of \$229.94 on the season's operations. Squid are not usually obtained locally at Souris, but this fall they were very plentiful and no mistake could have been made by the directors, in freezing and storing this fish. It is a standard bait and sells readily. The ice at this freezer kept in good condition and no trouble was experienced in freezing the charge.

*Report for 1902.*

‘On account of some minor difficulties between the fishermen and some of the other shareholders of the association, no ice was stored during the winters of 1901-02, and of course no bait was frozen, therefore no results can be obtained. There is a possibility of these difficulties being set aside and something done for the coming winter towards storing a good supply of ice.’

MIMINEGASH, PRINCE CO., P. E. I., 1901.

This freezer is of the same size as the one built at Bayfield. The storage room is divided into two portions, however, which will enable it to be run more economically. The ice chamber has been enlarged and an additional ice storage has been placed in the freezing shed for the purpose of supplying ice for the freezing of bait in the spring without drawing on the main ice supply. The bait will be frozen in pans at this point.

*Report for 1902.*

The directors, although new at the business, got a good supply of ice stored, and an expert was sent there. The secretary reports as follows:—‘On May 1 we opened our freezer, and under the superintendence of an expert furnished by Mr. Macfarlane, Mr. Jas. Dort started the work of freezing herring, which was thoroughly done, in fact, so well did he do his work that we have kept a large quantity of herring in the freezer until the end of October, when we took them out in order to make room for squid. Those herring were as hard and firm as when placed in the storage room. Had

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the month of June proved a fine one, we would not have had enough herring in store for our fishermen, but after June our fishermen were able to supply themselves with fresh bait. This was the only reason why the herring were not used, but this had no effect in demonstrating how it is possible to keep herring if properly frozen and taken care of when frozen. The establishing of the freezer at Miminegash gave quite an impetus to the codfishers this season, as fully three times as much gear was in the water for codfish as in any previous years for the past 20 years. Our ice kept well; so well that we have some still on hand.'

## BALLENTYNE'S COVE, ANTIGONISH COUNTY, N.S.

*Report for 1900.*

Commenced operations on April 25, 1900, and fourteen tons of herring were frozen and stored. The fresh bait season was exceptionally good; better than for many years past. Mackerel struck in early and provided an excellent supply of bait. In consequence, the fishermen did not require the frozen supply. Owing to neglect to ice the storage room frequently enough, two tons of herring were spoiled. The charge was ultimately converted to other uses. The presence of the freezer was, however, a guarantee that bait would at all times be available. This freezer will be operated by the fishermen during the coming season.

*Report for 1901.*

A normal scarcity of bait was felt at this station during the past season, and the freezer demonstrated its value to the fishermen. A smaller quantity of herring was frozen this year, but every pound was used with good results. The fishermen last season were not convinced of the value of frozen bait, but no one at this point doubts its utility now. The results are evidenced by the quantity of fish secured which would not otherwise have been taken. The freezer was further utilized by small vessels which brought bait (squid) to the freezer to be frozen and held for them until required. No difficulty was experienced in maintaining a proper temperature, and the freezer worked satisfactorily.

*Report for 1902.*

This association was not in a position to harvest any ice during the winter of 1901-2, as none formed in the harbour, and there was no place nearby where fresh water ice could be obtained, so they were not in a position to freeze any bait at all. They were not much handicapped, however, as the president of the Bayfield Bait Association owns a controlling interest in this one. He, therefore, when bait was scarce, furnished them from Bayfield with all that was required, and they had a very successful season.

## BAYFIELD, ANTIGONISH CO., N. S.

*Report for 1901.*

This freezer has had a very satisfactory season and has been both a direct and indirect benefit to the local fishermen. Small fishing vessels Harbour au Bouche have baited here and have fished from the port. The freezer was an indirect benefit by permitting the fishermen to freeze and hold mackerel when the market was glutted, enabling them to obtain a better price later on. Permission was given this association to extend the freezer and the original ice chamber was converted into freezing and storage rooms, and an independent ice-house built alongside, and connected with the smashing floor of the freezer by a slide. The president of this association, Mr. Chas. L. Gass, writes:

'Our freezer worked in a very satisfactory manner, during the past summer. As in all other things the first year was more of an experiment than otherwise. With us at the start, the fishermen were very doubtful as to the value of frozen bait, but when

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they had a trial of it they found it to be as good as the fresh caught article. In October, when there was no live bait to be had, boats were baited with fifty to one hundred pounds from the freezer caught from 500 to 900 pounds of codfish at a setting; this they could not have taken had there been no frozen bait. The freezer in future will prove of even greater benefit to our fishermen.'

The new ice house for the enlarged freezer has a capacity of about 400 tons.

*Report for 1902.*

'We froze a large quantity of spring herring for use by our fishermen, and also to supply the Ballentyne's Cove Association. We had very good results, and have fully demonstrated the benefits to be derived from a sure and certain supply at all times of bait for the fishermen. We had plenty of squid during November and very good cod-fishing. Weather was very favourable during the greater part of the month. On the whole the season has been a very good one.'

WHITEHEAD, GUYSBORO CO., N. S.

*Report for 1901.*

'Commenced operations in the spring, when herring were frozen for bait, but were not all used as the fishermen had operations interrupted by the presence of dogfish on the coast. Later on squid were frozen but were not all used for the same reason. In August the ice supply was finished while some bait remained in the freezer. The ice did not keep well at the station and was not covered or protected by the association. The bait frozen proved of good quality and gave satisfactory results when used. The season ended with a deficit of \$250.00 due to shareholders of the association. Ice will be cut and stored and this freezer operated during the coming season.'

*Report for 1902.*

'There was only one opportunity when ice could have been cut at this place; that opportunity was let pass, and none other offered. I would here say that the winter of 1901 has been the mildest for years, so that possibly the lesson taught the board of directors may not be totally without results. I feel certain that it will not be lost at this station, and that ice in abundance will be stored, if at all possible.

The report of Mr. J. F. Frazer still holds good. A division in the management bars the freezer from success. Only a small quantity of ice stored and good results from it. The transportation problem has been solved. I understand that a steamer is being built expressly for the fresh fish trade, and will be on the coming season between Canso and calling at several points on the way to and from Halifax.

PORT BECKERTON, GUYSBORO CO., N.S.

*Report for 1901.*

Commenced operations in the spring of 1901. The situation at this station is not very satisfactory, the shareholders are divided into groups and are not working in harmony, but I hope before another season commences that this will be remedied. During the past season a quantity of bait and fish were frozen. As much ice was lost through neglect to cover properly as was used. The secretary writes on September 17, says:

'In some ways our affairs are satisfactory and in other ways are not. Some of the fishermen say the freezer is a boon to the place, others state the contrary. The facts are these; the fishermen who have filled their shares and used the bait have made a success, they have proved it by the amount of fish they have caught with bait taken from the freezer. Now, in regard to some of the bait getting bad, which caused you to send a man from Canso, I might say, that if such a man had been sent to us at first, we

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would have had no difficulty by following his directions. Another year the running of the freezer will only cost us about half what it cost us this year. I think the money well spent in sending an expert freezer here. Of course, every one understands that it was the fault of the attendant and not of the freezer, which caused the complaint about the bait, and we will hope the matter will be soon forgotten. Our ice is running short, and will not last longer than the end of the present month. I do not think we will have any more trouble and will make a better showing another year.

I have looked carefully into the fishing conditions at this point and am convinced that as soon as the freezer is in the hands of an undivided management, and carefully run it will prove its benefits to the locality. The population are dependent solely on the fisheries. They are building small vessels to prosecute their calling further off the coast, and a freezer is the one thing needed. A lighthouse erected last year, permits the fishermen to enter the harbour at night. Winter fishing is commencing, and schools of the finest haddock are off the coast. Adequate and regular transportation for fish alone is needed to develop a large trade from this and adjacent points.

*Report for 1902.*

The board of directors are not more unanimous than they were the year previous. Bickering and local jealousies make it anything but a pleasure to visit this locality. I was present at the annual meeting; there was quite a storm of words, and some of them were not parliamentary either. I however, advised them to let bygones be bygones and commence anew. Get up a good supply of ice, and prosperity and pleasant words would come to them if they persevere.

They promised on the following Monday to start to work and get up the ice. A thaw set in before they had half done, and the ice they had was very little better than none at all. This did not add much to their good resolutions. However, if they make a proper use of the freezer, it would certainly be a great boon to the fishermen of the locality.

SAMBRO, HALIFAX CO., N.S.

*Report for 1901.*

A freezer was built at this point several years ago, but owing to faulty design did not prove a success. The building was acquired by the Sambro Fisherman's Bait Association, and the storage and freezing chambers rebuilt. No change was made in the ice-house. The directors did not attempt to freeze fish until the fall run of squid appeared, when 25 tons were frozen and stored, and will begin to be used next month (February). The fish are well frozen and in good condition. This, coupled with the fact that the normal bait supply, in Halifax freezers, is short, should cause fishing vessels to make Sambro a port of call for the first baiting in the spring. The directors have applied and have been granted permission to extend the freezer and work will be commenced at once on a detached ice-house and the existing ice-house converted into storage and freezing rooms. Situated at the mouth of Halifax harbour, the management being in the hands of careful men, I look forward to this station to give one of the best demonstrations we have yet had, as to the value of cold storage for bait.

*Report for 1902.*

The freezer was completed as outlined above, but they had no ice stored. But the board of directors being alive to the necessity of having a supply, imported a cargo and have frozen 20 tons of squid. And the secretary in writing me on the 9th instant, hopes to freeze several tons more. Very good fares of cod and haddock have been caught. This freezer has a live board of directors, and they are highly pleased with the results.

## PORT LA TOUR, SHELBURNE CO., N. S.

*Report for 1901.*

'The annual meeting of this association was held on November 29 at Port La Tour and the directors presented a statement of the affairs of the association. The result of the year was unsatisfactory, and the year ended leaving the association in debt, owing to the almost entire failure of their ice supply, due principally to the fact that the bed of the ice house was not properly prepared by the foreman in charge of construction. The association, however, delayed commencing building until the winter had set in and owing to the lateness of the season in order to store ice, every effort had to be made to expedite construction. This freezer has a capacity of thirty tons of bait.

Port La Tour is a good fishing station and when given an opportunity, under careful management, the freezer should be of considerable benefit locally. The loss of the ice supply entailed considerable expense on the association and handicaps them on the second year's work. With a portion of the ice remaining, a few barrels of herring have been frozen, but it is more in the nature of a test charge.'

*Report for 1902.*

'There was part of the ice left over. This should have been removed and the bottom properly prepared. The directors had some difficulty in getting any ice whatever, and this fall, when squid could have been got they thought it hardly worth while to start it at all. Squid were quite plentiful and good fishing had when the weather was fine. Good fares were landed. The directors are unanimous now to have the bottom of the ice house properly constructed before any more ice is harvested.'

## CLARK'S HARBOUR, SHELBURNE CO., N. S.

*Report for 1901.*

'The herring do not now appear at the western end of the province until fall, and mackerel was the first bait frozen. The quality of bait was good but the quantity put up was small. Speaking of the first charge frozen the *Coast Guard* says:

'The small lot of mackerel frozen at the freezer here begins to show what an immense benefit cold storage for bait will be to fishermen in general, when the supply can be made constant. For use by boats in the vicinity, bait can be taken from the freezer daily, and in such quantities as may be needed, with none left over to spoil. The fishermen say it is the handiest thing yet, and the bait is as good as if just caught.'

The mackerel fishing at the western end of Nova Scotia was almost a complete failure this year, and this will probably account for the amount frozen here. In the fall the herring were plentiful, but the ice supply was insufficient to carry them until the winter months. The secretary of the association, Mr. J. L. Nickerson writes:

'On account of there being no bait fish to get up to the middle of June, and there being a leakage at the bottom of the ice when the bait was to be had, we find our ice supply nearly gone so that but 3,950 pounds were frozen, which was only enough to try the freezer. The fishermen who used the bait reported it as good as fresh caught bait and made good hauls of fish with it. We hope to repair the bottom of our ice house and do a better business next year.'

*Report for 1902.*

'The season, like most of the other stations, for harvesting ice, was very short, and they got only about half the capacity of their freezer, but the board of directors with commendable zeal got a cargo from the State of Maine, U. S. The weather, a good

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part of the season was rough and unfavourable, but when fine, plenty of fish, especially pollock were taken. Bait herring were plentiful. The ice house was properly constructed, and the meltage of ice was light. The secretary reports: 'Ice kept well. Very good results from our freezer this year.'

LOWER EAST PUBNICO, YARMOUTH CO., N. S.

*Report for 1901.*

'The season at this station has been a satisfactory one; the only trouble has been to secure sufficient bait fish. The ice supply kept well, at this point; the meltage being light. The president of the association writes:

'We had our freezer finished sufficiently to put in our ice, three hundred tons, by February 15, and everything was completed by March 1. We expected to freeze from 75,000 to 100,000 pounds mackerel in May, but did not get any to speak of: 1400 pounds. They were worth only three cents per pound in Boston, and we sold them at the freezer for nine cents each, which will show the advantage of the cold storage plants being able to procure fish when low and holding them until the price advances or until there is a demand for them. There were very few herring caught in our immediate vicinity. We froze only about seventy-five barrels, most of which are in storage for the spring fishing. Have not been able to procure squid. We could sell 200 or 300 tons if we could get them. Have every convenience in cold storage for bait, it is one of the best things that the Government could do to help the fishermen. When plants are located along the shores, fishermen need lose no time looking for bait, and they should be the means of getting a larger catch of fish, which means a more profitable business.'

*Report for 1902.*

'There was a defect in the construction of this freezer. Some of the ordinary tarred felt having been used in the freezing chambers and one of the storage rooms instead of the regular P. & B. insulating paper. The board of directors think the Government should put it in proper shape, as the tarred felt contaminated the first fish stored in the freezer, and also the bait fish too, and that the fishermen imagine they cannot use the frozen bait as the fish do not like it. The matters stand in abeyance at the present time; when an examination will be made and the matter amicably settled.

The following freezers were completed but not in operation during 1901.

SANDY COVE, DIGBY CO., N. S., 1901.

Twenty tons capacity. Completed in July, an existing building being converted into a freezer. It contains two storage room of ten tons capacity each, ten freezing chambers and an ice house larger than the one provided for the standard sized freezer of this capacity. It has a full equipment of ice tools and will operate during the coming season.

*Report for 1902.*

On account of some trouble about the site the directors did not put up any ice. The secretary in writing me in August last had this to say: 'There is no doubt but that the Sandy Cove Bait freezer will be worked for all it is worth next year.'

PORT HOOD ISLAND, INVERNESS CO., C. B.

*Report for 1900.*

This freezer was finished in October, 1900, and a supply of ice being available, a test charge of one and one-half tons of squid were frozen and used in December. The secretary of the association writes:—

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We had our freezer completed about November 20, 1900. As we had some ice left over from last year, we transferred it to the new ice house, and commenced freezing squid. We froze about three thousand pounds on trays and in crates and kept them for future use; the result was that after the middle of December there was no bait on the fishing grounds, and the fishermen were glad to use bait from the freezer.

Some boats caught over \$100 worth of fish, using frozen bait, which they would not have caught if they had not bait from the freezer. One fisherman states that he earned his three shares in the freezer on New Year's day, over and above his neighbours who baited on salt squid, fishing on the same ground and with more trawls; all were expert fishermen.

The fishermen here were always doubtful about the value of frozen bait; now they are very favourably inclined towards our freezer, and expect great benefits from it next season. I also have frozen a quantity of haddock and codfish, and expect to supply fresh fish to Port Hood and vicinity during March and April.

#### *Report for 1901.*

The following summary of results of season's operations at Port Hood island has been received from the president of the Port Hood Island Association, Mr. Joshua Smith:—

'Port Hood Island, January 1, 1902. In looking over the past fishing season with regard to our cold storage, I must say that at first we met with disappointments. We saved all the spring herring we could get and put them in the freezer for future use, but unfortunately they were not used as our fishermen found that herring bait was not of much use when the fish were running after other bait, such as mackerel and squid. We could sell no bait and had to take them out of the freezer. We tried to get squid. We had no trap here last season and imported three or four tons of squid from Canso, which proved a great benefit. We also jigged a lot of squid in September; altogether we froze about five tons at this time. After this we met with another disappointment, when our ice gave out, and the balance of the squid left in the freezer (about 500 lbs.) was spoiled. The freezer was of no further use to us until the new ice formed in December; we then froze a quantity of squid which is now utilized by the fishermen. The squid were plentiful around the coast during the fall, and the fishermen could get all they wanted up to the December 20. Now they are using frozen bait to good advantage and are taking large catches of haddock with frozen bait, which they could not do without the aid of the freezer. Every catch of fish now is clear gain to the fishermen. We had also a quantity of other fish frozen, such as hake, cod and haddock, which will come in good during the winter.

Our fishermen in this vicinity had another drawback this year; the dogfish made their appearance early in September and took complete possession of the fishing grounds until the last of November, and for two months and a half there was nothing done in the way of fishing of any kind. Notwithstanding all these drawbacks the fishermen who kept at it all through the month of December, made good wages; some boats ran up to nearly three hundred dollars, and are still fishing and taking advantage of any favourable days to use the frozen bait from the freezer.'

#### *Report for 1902.*

The president of this association reports as follows:—

Froze some herring, not many, as all those frozen last year were not used as bait. The dogfish were a great nuisance to the fishermen, and for two months or over they had possession of the fishing grounds. Lately the fishing has been good. Hake and haddock principally. Only nine boats fitted out for the fall fishing and are doing anything. Squid were plentiful on the ground. We had only a few in the freezer, but we expect to do some fishing during the month of December.

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NEIL'S HARBOUR, VICTORIA CO. C.B.

*Report for 1900.*

A freezer was built at this point by private enterprise from the department's plans, and was not under the supervision of the department's inspectors. Mr. M. G. MacLeod, who was principally interested, writes :—

'Our Neil's Harbour cold storage did not prove a success, owing to the ignorance and carelessness of our men. A lot of squid were packed in it, but in such large quantities that they got red before they froze. Had the squid been properly frozen they would have been worth at least one thousand five hundred quintals of codfish to us.

When we get the Neil's Harbour storage to work well it is sure to pay, and possibly better than any other cold storage in the province of Nova Scotia. It is not the fault of the cold storage that the squid did not keep well. The storage, I believe, is all right, and with some experience will be worth thousands a year to our fishermen and ourselves. If the squid had kept in our storage last fall, we would have more codfish stored away for winter than we could handle for drying next spring. Next year I hope we will be able to give a good report.'

*Report for 1901.*

Mr. M. G. MacLeod states :—

'We imported a lot of herring from Newfoundland in November, got them well frozen and they kept well, but the weather was so blustery that we did not get an opportunity to use them.

Codfish were plentiful during the month of December, and had the weather been even fairly favourable, we would have had the largest catch of codfish that was ever taken on our coast. This is the first fall that we were well equipped with sufficient bait, and it is too bad that we did not get weather to use it.

The freezer is all right ; we are well satisfied that it is a needed want supplied.'

*Report for 1902.*

As we generally ask Mr. MacLeod at the close of the year for a report of his work, he has not up to the present furnished one. But I may say he had a very good year ; caught large quantities of fish, principally salmon, and kept them in his Sydney cold storage.

The reports which follow relate to freezers which operated for the first time during the year 1901.

GABARUS, CAPE BRETON CO., C. B.

*Report for 1901.*

'The season here would have been a successful one had the ice supply kept even moderately well. The loss, I attribute to the fact, that the contents of the ice chamber were not covered. No effort was made to freeze spring herring for bait as squid are better. A number of barrels of the first run of squid were frozen and quickly used or sold, the price being about \$6.00 per barrel. One fisherman was reported to have caught \$54.00 worth of fish with \$3.00 worth of frozen bait. On the arrival of the later run of squid, ice was imported from North Sydney at heavy expense and a quantity frozen. The sale of this in the spring, will go towards reducing the heavy deficit on this year's operations. I am informed that a contract was offered this association for the delivery of bait in the spring. The location is a good one and with careful management, the next season should be a successful one.'

*Report for 1902.*

'Only 119 tons of ice were put in March last. The directors at this place like some of the other stations, are to be compared with a team of balky horses. When one



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is ready to go ahead, the other hangs backward, and vice versa. The shareholders will have to learn to put in a board of directors of nearly one mind, and then only will the management set to work. Some of the bait held over at this place had a fair offer received for it. Knowing they had only a small quantity of ice any one would have thought they would have sold: but they did not, and in less than two weeks afterwards the whole lot had to be carted out for manure. Why should results be got at one place and disaster at another? This station should be one of the most successful as squid, the best known bait fish, strike Gabarus bay earlier than anywhere else on the coast of Nova Scotia. I leave others to say what is the reason for the ill success at this point.'

PETIT DE GRAT, RICHMOND CO., C.B., 1902.

Twenty tons capacity. Completed in October of last year. This fishing station is situated at the eastern entrance of the Strait of Canso, on Island Madame, and is as favourably located as the important port of Canso. The winter fishing at Canso is dependent upon the bait freezers, and has been built up by them. The fishermen here will now be in a position to prosecute this branch of their calling to better advantage. The freezer is completely equipped and will operate this season.

*Report for 1902.*

The board of directors decided not to begin operations until October, as the most of the fishing is done in the fall and winter in this locality. They commenced about the 6th of the month; on the 22nd the president wrote as follows:--'We have in the freezer to-day about 12 tons of good clean squid caught with the hooks, they are cleaner than those sometimes taken on the shore. That is to say, we have 480 crates. One cold storage room is full, and now commencing on the other, and it is a satisfaction to know that the freezer is working splendidly. The squid are frozen clean through, and must certainly make splendid bait. We may get it full in a couple of weeks. They got their desire fulfilled, as they have over 20 tons frozen, and everything is working nicely. Here they catch a great many haddock. A few years ago they were not thought to be very desirable, but now there is plenty of money for the fishermen who catch haddock.'

CHETICAMP, CHAPEL, INVERNESS CO., C.B., 1901.

Twenty tons capacity. The storage room of this freezer was divided unequally by a partition for the purpose of providing a small room to hold a few tons of bait, in order to avoid the necessity of icing the main storage until needed.

*Report for 1902.*

This association happened to fill their ice-houses in time. The same evening they finished harvesting, a thaw set in, and the following day the ice was all gone. A good quantity of fresh herring were frozen; some of it was used for lobster bait and the balance for codfishing. The season of 1902 has been a stormy one, and I think perhaps the worst storms have been to the north of Cape Breton. The bad stormy weather and also the very bad weather for curing the fish, for six or seven weeks there was hardly a day fit to spread fish out to dry. The fishing industry suffered very much through these two great disadvantages, but the fishermen are fully aware of the great boon of having a sure and constant supply at all times.

EASTERN HARBOUR, INVERNESS CO., C.B., 1901.

Twenty tons capacity. The plans for this sized freezer have been altered by increasing the insulation of the building, substituting matched and dressed lumber for lumber planed on one side. The storage room has been divided into two smaller rooms and the ice capacity enlarged. This freezer is the first of this type.

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*Report for 1902.*

The secretary submits the following report :—

Which shows particularly the disadvantages which have handicapped the fishermen from being successful in their fishing operations.

First of all, the weather has been quite boisterous for the latter part of the season, blowing almost constantly from the north and north-west, and preventing the fishing boats from moving out at all from their anchorage. Fish were quite plentiful, especially cod and haddock, when weather permitted. Squid has been fluctuating in the general catch, sometimes very good catches and at other times very poor. As it is the habitual custom here to catch squid about daybreak, it sometimes happens that the weather is too uncertain at such an hour to warrant the fishermen in reaching the real fishing grounds, which are considered quite remote from land. Eventually they repair to the grounds near by to land; these are infested by dogfish, where they meet terror on every hand. This is one instance where the fisherman is seriously baffled in his success and one worthy of consideration. It is noticeable here that the dogfish are not half so plentiful in deep water as they are off shore. Nevertheless, it is as voracious and devilish. The larger sized boats, owing to their stronger capacity to reach the far grounds are better able to cope with such difficulties. Now that the dogfish are thick upon the shores, lashing the waters of the gulf, fishing of almost every kind is practically suspended. It should be seriously considered that if the dogfish are left unmolested and no effective means brought about for its total destruction, the Canadian fisheries will, in a few years, fall considerably. It is certainly a nuisance our Government ought to rightly consider. I will also mention that frozen bait is being used continually whenever occasion demands. The good advantages of the freezer are only commencing to draw recognition from the fishermen at large.

NORTH BAY, INGONISH, VICTORIA CO., C.B., 1901.

Twenty tons capacity. Completed in December. This is the last freezer completed and it is now ready to receive ice.

*Report for 1902.*

The North Bay, Ingonish, Fishermen's Bait Association, Limited, beg leave to submit their first annual report.

The annual meeting of the stockholders of the association was held at this place on August 5, 1902.

From a report submitted to the stockholders at that meeting and from other sources, the following report is compiled, with a view of presenting a history of the association since its organization, and the progress that has been made in the working of the plant. The charter is dated August 31, 1901, and the first meeting for organization, choice of officers, and kindred matters, was held on September 7, 1901.

At this meeting it was voted to erect a twenty ton freezer, and immediately thereafter contracts were made for materials and supplies, the site was selected, the land was prepared, and under the auspices of Mr. Geo. Y. Grant as foreman, work was pushed forward as rapidly as possible, and the bait freezer was completed in all essentials about Christmas, 1901.

There were originally thirty-two subscribers to the stock of the association, representing 110 shares.

The total cost of the freezer was . . . . .	\$1,411 03
Of this sum the government has furnished . . . . .	705 51
“ association “ . . . . .	705 52

Mr. J. F. Fraser, formerly inspector of bait freezers, was from the beginning very earnest in his co-operation with the members of the association, not only in the inception of the work, but in every stage of its progress. Whatever assistance he could render, by advice and encouragement, was freely given, and the association wishes to express and to record their great obligation to him. Every promise of assistance made

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by the government was promptly met, and no delays, excepting those to be anticipated, arose from any quarter.

The open winter of 1901-1902 and consequent absence of snow and ice made it difficult to supply and haul ice enough to fill the freezer. About two-thirds of the necessary amount was obtained, and there is no doubt but that by another year a full supply will be gathered early in the season.

The freezer has been of substantial benefit to the fishermen already, and there is no doubt that it will be of greater benefit hereafter.

The first fish put into the freezer were herring—on May 5, 1902—and during that month both herring and mackerel were frozen in considerable quantities. In June, salmon and mackerel were frozen.

On July 14, the first squid were frozen, and during these three months and also in August, fish were received at the freezer and were withdrawn when needed, leaving always and at this time a fair supply of frozen bait to meet the exigencies of the autumn freezing.

Many fishermen have used the frozen bait, and already cases have been reported to the association of excellent catches of cod and haddock with frozen bait, when other bait could not be obtained, and when but for this bait no fishing would have been possible; as, for example: One boat took seventy-six pounds frozen bait (mackerel) from the freezer and the catch was 500 pounds cod; another boat took seventy-nine pounds from the freezer and the catch was 900 pounds cod and haddock; another boat took forty pounds squid from the freezer and the catch was three quintals cod and haddock; another boat took ten pounds herring from the freezer and the catch was 820 pounds haddock. One boat reports a gain of forty dollars for part of the season on days when fresh bait could not be had, and when the boat would have been idle but for the freezer.

The following conclusions can fairly be drawn from the experience of the first year:—

1. The freezer works perfectly so far as the preservation of fish is concerned.
2. From what can be gathered this summer—which has been cooler than usual—the ice does not melt or waste unduly.
3. The frozen bait is in all respects good, perfectly suited for fishing, easily handled and practically available at all times and in all seasons.
4. The greatest care must be exercised that fresh fish only should be chosen for bait. Old fish, or partially decayed fish cannot be made good or fresh by freezing. Too much stress cannot be laid on this. Great watchfulness must be observed and every member of the association made to understand this vital point. Any failure to observe this rule causes dissatisfaction and complaint, and the freezer and the bait are unjustly blamed for results.
5. The boats using the frozen bait have made more money than they could have made had the freezer not been established.
6. With the habit of using the freezer the fishermen will appreciate more and more its usefulness.

Very respectfully yours,

On behalf of the association,

HENRY M. ROGERS.

SHEDIAC, WESTMORLAND CO., N.B., 1902.

This freezer was just completed last week. Has a capacity of twenty-five tons and is the first one to be erected in this province. It is under good management, and I expect good results from this station.

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The following is a list of the freezers which have been completed up to the first of January, 1903, together with a statement of their capacity, cost and the proportion of the cost paid by the department :—

## FREEZERS CONSTRUCTED UP TO JANUARY 1, 1903.

Locality.	County.	Province.	Nominal capacity.	Cost.	Proportion Government Grant.
			Tons.	\$ cts.	\$ cts.
Frog Pond.....	Prince.....	Prince Edw'd Isl'd	20	1,180 18	590 09
Alberton.....	".....	" "	30	1,347 67	673 83
Miminegash.....	".....	" "	10	840 46*	420 23
Souris.....	King's.....	" "	50	2,064 39	1,000 00
Ballentyne's Cove.....	Antigonish.....	Nova Scotia...	20	1,361 04	861 04
Bayfield.....	".....	" "	40	1,905 89*	952 94
Port Hood.....	Inverness.....	" "	20	1,313 60	666 80
Cheticamp.....	".....	" "	20	1,277 42*	638 71
Eastern Harbour.....	".....	" "	20	1,491 02*	745 51
Ingonish.....	Victoria.....	" "	20	1,411 03*	705 51
Gabus.....	Cape Breton.....	" "	40	1,982 82	991 41
Petit de Grat.....	Richmond.....	" "	20	1,515 95*	757 97
Whitehead.....	Guysboro'.....	" "	15	963 41*	481 70
Port Beekerton.....	".....	" "	20	1,043 08*	521 54
Sambro.....	Halifax.....	" "	50	2,246 66*	1,000 00
Port la Tour.....	Shelburne.....	" "	30	1,380 03*	690 01
Clark's Harbour.....	".....	" "	25	1,202 88*	601 44
Lower East Pubnico.....	Yarmouth.....	" "	50	2,016 39*	1,000 00
Sandy Cove.....	Digby.....	" "	20	1,427 34*	713 67
Shediac.....	Westmoreland.....	New Brunswick...	25	1,210 18*	605 09

\*Includes equipment.

During the season of 1900, four freezers operated, but in one (Port Hood Island) a test charge only was made. The total nominal capacity of the three in operation was 70 tons of bait, and 47 tons were frozen, or 67 per cent of the capacity was utilized. In 1901, thirteen freezers were in operation, having a nominal capacity of 360 tons, and 137.8 tons of bait were frozen, or 38 per cent of the capacity utilized. The tables given below show the bait freezers in use in 1900 and 1901 and the bonus earned by each :—

## SEASON OF 1900.

Freezer.	County.	Province.	Nominal Capacity.	Number of tons bait frozen.	Bonus.
			Tons.	Tons.	\$
Ballentyne's Cove.....	Antigonish.....	Nova Scotia.....	20	14	70 00
Frog Pond.....	Prince.....	Prince Edward Island.	20	23	100 00
Alberton.....	".....	" "	30	10	50 00
Port Hood.....	Inverness.....	Nova Scotia.....	20	.....	.....
Neil's Harbour..... (private freezer)	Victoria.....	".....	.....	.....	.....
Totals.....	.....	.....	.....	47	220 00

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## SEASON OF 1901.

Freezer.	County.	Province.	Nominal Capacity.	Number of tons bait frozen.	Bonus earned.
			Tons.	Tons.	\$ cts.
Frog Pond.....	Prince .....	Prince Edward Island	20	20	100 00
Alberton.....	" .....	" .....	30	20	100 00
Souris.....	King's .....	" .....	50	2	10 00
Ballentyne's Cove.	Antigonish .....	Nova Scotia .....	20	10.1	50 50
Bayfield.....	" .....	" .....	10	14	70 00
Port Hood Island.	Inverness .....	" .....	20	11.8	59 00
Gabarus.....	Cape Breton .....	" .....	40	10.3	51 50
Whitehead.....	Guysboro .....	" .....	15	10	50 00
Port Beckerton .....	" .....	" .....	20	10	50 00
Sambro.....	Halifax .....	" .....	30	20	100 00
Port La Tour.....	Shelburne.....	" .....	30	Test charge.	
Clark's Harbour .....	" .....	" .....	25	" 9.6	
Lower East Pubnico ..	Yarmouth.....	" .....	50		48 00

## SEASON OF 1902.

Freezer.	County.	Province.	Nominal capacity.	Number of tons bait frozen.	Bonus earned.
			Tons.	Tons.	\$ cts.
Frog Pond.....	Prince.....	Prince Edward Island..	20	20.69	100 00
Alberton.....	" .....	" .....	30		
Souris.....	King's .....	" .....	50	No ice .....	
Ballentyne's Cove.	Antigonish .....	Nova Scotia .....	20		
Bayfield.....	" .....	" .....	40	30.7	100 00
Port Hood Island.	Inverness .....	" .....	20		
Gabarus.....	Cape Breton .....	" .....	40		
Whitehead.....	Guysboro' .....	" .....	15	No ice .....	
Port Beckerton .....	" .....	" .....	20		
Sambro.....	Halifax .....	" .....	50	20.69	100 00
Port La Tour.....	Shelburne .....	" .....	30	No ice .....	
Clark's Harbour .....	" .....	" .....	25	20.34	100 00
Lower East Pubnico ..	Yarmouth.....	" .....	50	None frozen.	
Sandy Cove.....	Digby.....	" .....	20	No ice .....	
Cheticamp Chapel .....	Inverness .....	" .....	20		
Eastern Harbour.....	" .....	" .....	20	10.65	53 25
Petit de Grat.....	Richmond.....	" .....	20	20.28	100 00
North Bay.....	Victoria .....	" .....	20	3.36	17 00
Miminegash.....	Miminegash .....	Prince Edward Island..	15	20.56	100 00

The matter is an important one and merits the most careful consideration of the department.

In conclusion, I need only add that the bait-freezer system as carried on under the auspices of the Dominion government has proved a genuine boon to the fishermen in every locality where the freezers have been erected. In future years there is every reason to prophesy continued progress and extension, and increased usefulness and benefit to our sea-coast population.

All of which is respectfully submitted.

Yours obediently,

PETER MACFARLANE.





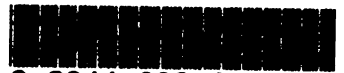












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**Date Due**

Date Due	

